DOCUMENT RESUME

ED 394 253 EC 304 773

TITLE Instructing for Success: Maximizing Learning Opportunities for All Students.
INSTITUTION West Virginia State Dept. of Education, Charleston. Office of Special Education Administration.
PUB DATE [95]
NOTE 131p.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Assistive Devices (for Disabled); Attention Deficit Disorders; Behavior Change; *Classroom Environment; *Classroom Techniques; Curriculum; Disabilities; *Educational Practices; Educational Principles; Educational Quality; Education Work Relationship; Elementary Secondary Education; Hyperactivity; Instructional Effectiveness; Rating Scales; *Special Needs Students; Student Behavior; *Teacher Characteristics; Teacher Collaboration; Teacher Effectiveness; Teaching Methods; Team Teaching; Transitional Programs
IDENTIFIERS West Virginia

ABSTRACT

This guide presents recommended practices for instruction of students with special needs, based on the premise that students should be educated according to individual needs, not according to a categorical exceptionality label. The guide presents principles applicable to both special and general education classrooms and is organized around six basic fundamentals of quality classrooms: (1) teacher characteristics (such as respect, positive attitudes, and realistic expectations); (2) environmental characteristics (physical arrangements, positive classroom climate, and routines and procedures); (3) classroom management (such as planning, classroom rules, movement management, and reinforcement versus punishment); (4) effective instruction (instructional planning, group practice, and assessment of mastery); (5) collaborative teaming (rationale, types of teams, and peer coaching/mentoring); and (6) individualized instruction (what to teach and how to teach). Attached are a glossary and appendices which include rating scales and listings of instructional principles. Also attached are five topical papers on: Program of Studies requirements, educating students with attention deficit hyperactivity disorder, nonaversive techniques for behavior management, transition, and assistive technology. (The main paper contains 32 references; the topical papers also contain references and glossaries). (DB)

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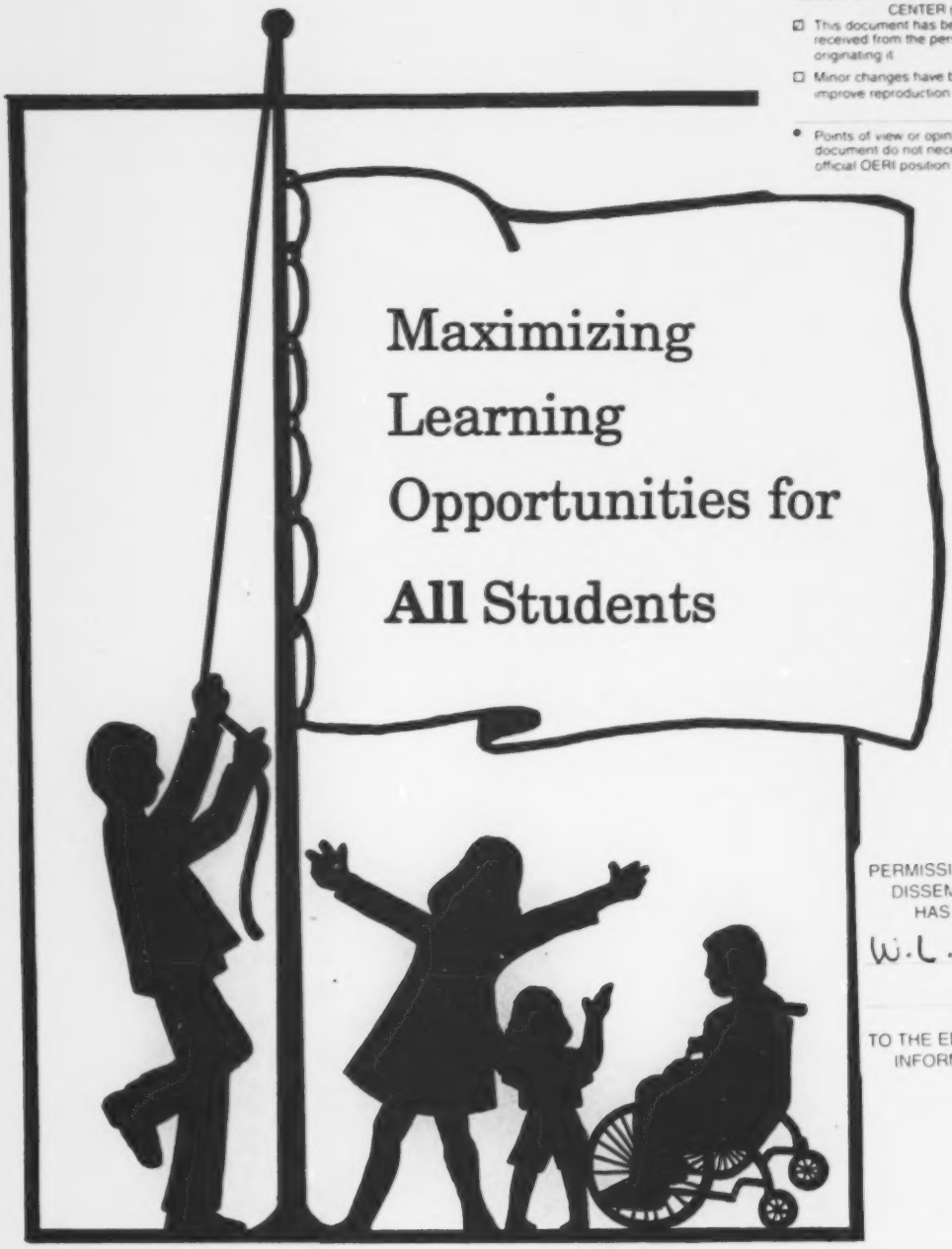

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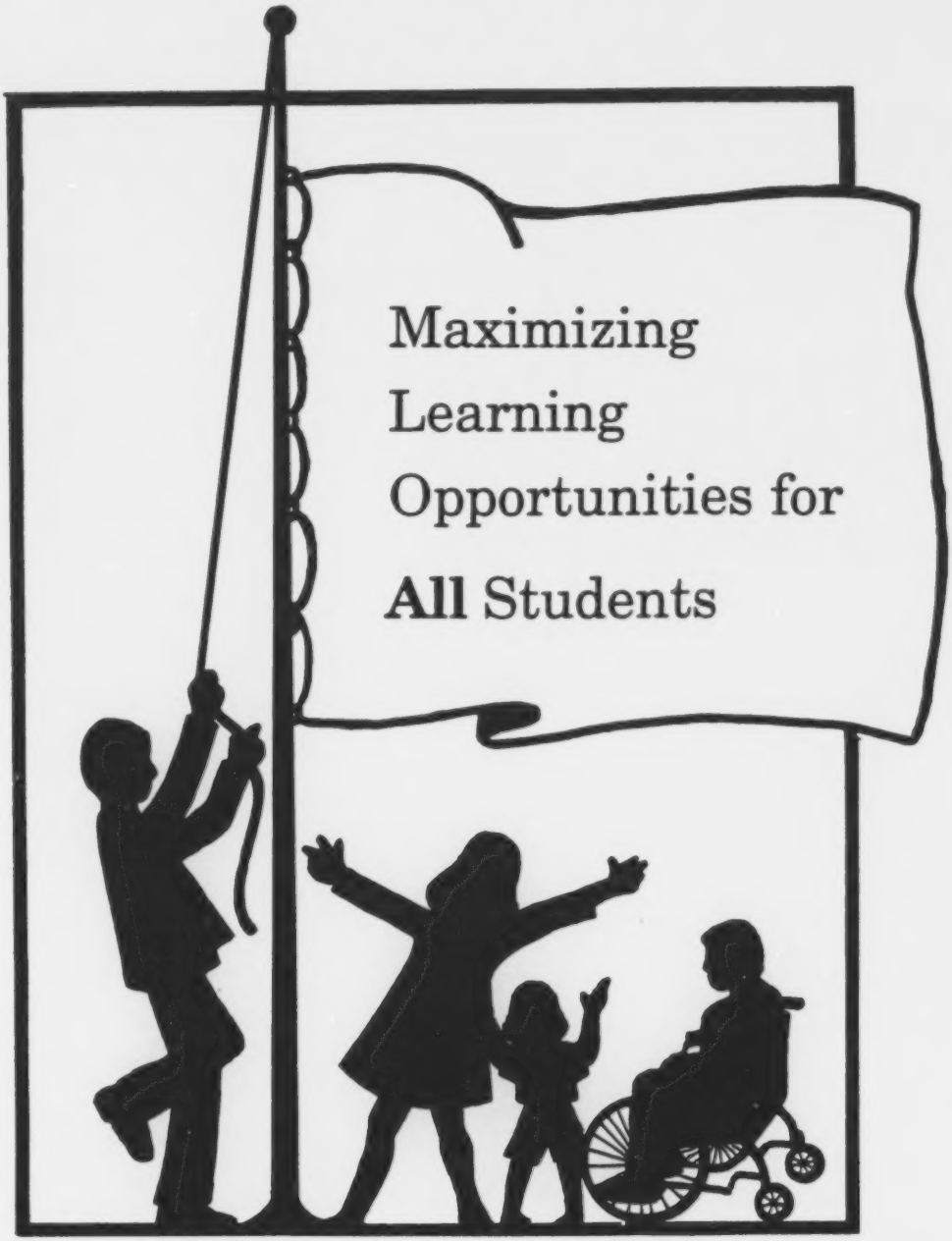

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INSTRUCTING FOR SUCCESS:
MAXIMIZING LEARNING OPPORTUNITIES FOR ALL STUDENTS

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FOREWORD

One of the primary responsibilities of the West Virginia Department of Education is to provide technical assistance resources that support successful learning experiences for children in West Virginia schools. We are pleased to provide *Instructing for Success: Maximizing Learning Opportunities for All Students* as a guide to educators for the improvement of daily instruction for all students with a focus on students with special needs. This document reflects current research and incorporates recommended classroom practices developed from expertise in the field.

Instructing for Success is intended to facilitate the decision-making process about how we teach students and to provide a current review of research literature and recommended practices on selected topics. The format of this document provides information for designing successful instruction and provides a mechanism for periodic dissemination of current research findings and recommended practices on specific educational topics.

The information provided in this document will be useful in designing quality classrooms. In addition, the publication of topical papers will help keep West Virginia at the forefront of educational practice.

Henry Marockie
State Superintendent of Schools

INTRODUCTION

The mission of the West Virginia Department of Education, Office of Special Education (OSE) is to increase the knowledge, skills, competencies, and resources of those who directly affect the lives of students with exceptionalities. To provide leadership and technical assistance for this endeavor, the OSE has developed a document to enhance the skills of teachers and to provide resources that will maximize the instruction of students with exceptionalities across all environments. This resource document is based on the belief that all students should be educated according to individual needs, not according to a categorical exceptionality label or lack of label. Although the focus of this document is recommended practices for eligible special education students, these same practices are applicable for all students regardless of student ability, grade level, setting, or content area.

The purposes of *Instruction for Success: Maximizing Learning Opportunities for All Students* are:

- to provide a decision-making process that facilitates the match between the individual needs of the student and the appropriate methods and curriculum that are recognized as "best practices";
- to emphasize basic classroom fundamentals;
- to illustrate the relationship between the Individualized Education Program and daily classroom instruction;
- to provide a forum for additional topical issues; and
- to promote consistency in the quality of instruction throughout the state.

ORGANIZATION OF THIS DOCUMENT

This document is being written and disseminated in stages. It is presented in a three-ring binder so that additional sections can be inserted as they are completed. The first section, BASIC FUNDAMENTALS OF QUALITY CLASSROOMS, includes content that is applicable in both special and general education classrooms. Those fundamental elements are: 1) teacher characteristics, 2) environmental characteristics, 3) classroom management, 4) effective instruction, 5) individualized instruction, and 6) collaborative teaming.

BASIC FUNDAMENTALS OF QUALITY CLASSROOMS is designed to facilitate systematic decision-making at the classroom level. The information provided incorporates research findings and expertise developed from practical experience. This is not a comprehensive review of research literature; however, the information has been gathered from a variety of current national sources, including textbooks, curriculum guides, technical assistance documents, and research journal publications.

As they are completed, additional topical papers will be disseminated on an on-going basis and should be added to this document. The selected topics include those that have been identified as important due to numerous requests for information, technical assistance, and clarification regarding these issues. Suggestions for additional topical papers are welcome.

The periodic dissemination of additional information will assist school districts in "keeping current" with educational research and trends. It is the hope of the OSE that *Instructing for Success* will be useful to practitioners in the development of successful programs and will ultimately impact students' learning, their lives, and their futures.

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I. TEACHER CHARACTERISTICS

A major factor in establishing a well-structured classroom that nurtures student learning is the teacher's ability to create a positive instructional environment. Feelings and attitudes reflected by the teacher in the classroom set the tone for the type of climate in which the instructional and affective needs of students are addressed. An environment of mutual respect, positive attitudes and realistic expectations is vital to this climate. Research indicates that the lack of these characteristics in the classroom results in underachievement and low self-esteem (Whitmore, as cited in Delisle, Whitmore, & Ambrose, 1987; Christenson, Ysseldyke, & Thurlow, 1989).

Effective instruction requires teachers to examine their own teaching practices to monitor and regulate their behavior in the classroom. An awareness of personal attitudes, biases, and feelings assists in understanding certain actions toward or reactions to students (Sabatino, 1987). This self-evaluation should include an examination of personal control and power needs. A lack of control in the classroom is often perceived by the teacher as a lack of competence and may result in inappropriate actions, such as engaging in unnecessary power struggles with students and overreacting to student behavior (Reid, 1988).

Periodic self-monitoring can help identify personal biases and feelings that interfere with equitable treatment of students (Algozzine & Ysseldyke, 1992). For example:

- Are all students treated equally?
- Do some students consistently receive more positive or negative comments than others?
- Are some students called on more than others?

Student performance must also be continually examined as a primary evaluative indicator in this self-evaluation process. For example:

- Is the student progressing?
- Does the climate of the classroom support and encourage learning?
- Are the teacher's actions or reactions to a student interfering with learning?

Objective self-evaluation of teacher effectiveness in every area should be on-going to ensure a positive learning environment and foster a feeling of well-being for students. A number of resources are available for teachers to utilize as self-monitoring tools. A sample checklist is included in Appendix I.

The following elements should be considered in the establishment of effective classrooms when examining individual teacher characteristics.

RESPECT

A climate of mutual respect in the classroom encourages achievement and self-confidence. In a classroom where there is a perceived lack of genuine respect for each individual, "the child views himself as the recipient of hostility from both teacher and peers" (Whitmore, as cited in Delisle, Whitmore, and Ambrose, 1987).

Creating a climate of mutual respect is dependent on the instructor's ability to interpret the communicative intent of the child and to respond appropriately. Active listening and appropriate responses to nonverbal and verbal communication establish a sense of well-being and personal worth to the student. According to DeLuke and Knoblock (1987), "By focusing attention on student needs early in the day, teachers can create a tone for classroom dynamics throughout the day" (p.18). Active listening techniques, such as standing close to the student, making eye contact, nodding in acknowledgment of what is being said, and waiting patiently for a student to stop talking, convey positive messages to the student about the teacher's interest in the student.

Listening attentively and acknowledging student feelings with appropriate comments reassures students and creates a "safe" environment in which students can express themselves freely. "In these safe settings, children and young adults learn to take risks and to try, rather than avoid, challenges or new situations due to fear of failure or ridicule. They learn that mistakes are a 'natural' part of the learning process. Creating a safe environment will enhance the success of all students and will be particularly important if we seek the successful involvement of students with diverse needs as members of regular classes" (Ford, Davern, & Schnorr, as cited in Stainback & Stainback, 1992, p.55-56).

POSITIVE ATTITUDES

Maintaining a positive attitude and using positive reinforcement in the classroom are essential in establishing supportive and cooperative learning environments for all students. Teachers must be aware that personal attitudes set the tone of the classroom, influence the tactics chosen to manage situations and children, and impact responses and participation by students in classroom activities (Reid, 1988). A positive attitude projects an atmosphere of optimism regarding the student's ability to accomplish tasks (Sabatino, 1987). Making classrooms friendly, supportive places to learn will enhance student participation, performance, motivation and risk taking. When students believe that their presence and opinions are valued, they become more active learners (Algozzine & Ysseldyke, 1992).

The teacher's ability to remain positive in difficult situations can be improved when teachers view conflict situations as opportunities for learning. Rather than fearing conflict, effective teachers see such situations as chances to help students learn problem solving and specific coping skills, "thus casting themselves into an instructional rather than a disciplinary role. Such positive attitudes create a healthier atmosphere and lead to more rational responses to affective problems" (Reid, 1988, p.126).

Praise obtains far better results than censure. The teacher who uses earned, sincere praise creates feelings of self-worth in students and makes students feel that their accomplishments are worthwhile (Sabatino, 1987). Positive comments encourage participation and enthusiasm for learning. Therefore, providing corrective feedback to students, teachers should also include positive comments (Algozzine & Ysseldyke, 1992).

REALISTIC EXPECTATIONS

Teachers who set realistic expectations for students and communicate those expectations to them promote positive learning environments and encourage self-confidence and achievement. When teacher expectations are realistically high, students succeed; when teacher expectations are

unrealistically low, students fail. Effective teachers make sure that all students are actively involved in learning and clearly communicate goals, objectives, standards, and expectations. Communicating realistic expectations to students includes ensuring that students understand the reasons and consequences of failure (Algozzine & Ysseldyke, 1992).

A climate of rigid teacher expectation regarding student performance, curriculum choices, sequence of learning experiences, time, and other classroom experiences, results in a learning environment that encourages underachievement and low self-esteem (Whitmore, as cited in Delisle, Whitmore, & Ambrose, 1987). Flexibility in teacher expectations is a critical issue. Realizing that some students may be at risk for learning and/or behavior problems increases teacher sensitivity and assists in planning for individual differences (Reid, 1988).

Teacher expectation frequently shapes the manner in which the teacher interacts with students. There is some evidence indicating that teacher interaction differs with low and high achievers and that students interpret this differential treatment in various ways, often resulting in lower academic self-concept for some students. It is important that teachers allow students equal opportunity to respond and use specific error-correction procedures that facilitate more accurate responses and improve the self-concept and progress of low achievers (Kerman, 1982 as cited in Christenson, Ysseldyke, and Thurlow, 1989).

LANGUAGE OF INSTRUCTION

"Language is the teacher's most valuable tool. Language can motivate through reinforcement, or it can alienate through sarcasm. Language can explain and enlighten, or it can confuse and muddle." (Ohio Department of Education, 1991, p. 22). The language of instruction used by teachers to relay information to students is an important consideration when discussing the fundamentals of effective teaching. Teachers should have an understanding of how they use language to teach (Christenson, Ysseldyke, & Thurlow, 1989). The way the teacher and student exchange information determines how well and in what way knowledge is gained. Teachers need to be aware of the language level at which they present information to ensure that students accurately understand and process the information. When giving directions, the language must be clear and simple. If it is necessary to use vocabulary that some students might not understand, define that vocabulary as part of the direction and emphasize words that are directive (e.g. fill in the blanks, answer each item, etc.). Walker & Walker (1991) offer guidelines on giving directions or commands that increase the rate of student compliance.

II. ENVIRONMENTAL CHARACTERISTICS

The environment in which students work must be conducive to effective, efficient learning. It must be safe, organized, fun, challenging, and fair. This environment includes the physical arrangement of furniture, the physical proximity of students, displays, learning centers, routines and schedules. The arrangement of the physical environment can profoundly influence a variety of student behaviors and attitudes, including movement, communication frequency and direction, distractibility, and motivation. To ensure success and enhance ownership, students need to be involved in the development of a favorable classroom environment (i.e. classroom organization and approaches for interacting with other students). The ultimate goal is to plan and arrange learning activities within an environment that fosters appropriate, goal-directed behavior, rather than controlling students through reprimands or other disciplinary procedures (Reid, 1988).

PHYSICAL ARRANGEMENTS

The arrangement of desks, chairs, learning centers, and other large pieces of furniture should ensure that children move both under control and with clearly specified direction. The seating arrangement should allow for large group, small group, and individual learning situations. Seating should be arranged to maximize student attention, minimize distraction and disruption, and enable the teacher to monitor the class at all times. In addition, environmental distractions, such as facing the sun or an open doorway, should be considered when arranging the room. Seating assignments should be based on individual student needs (e.g. dynamics between students, student preference, etc.), not by teacher preference (e. g. alphabetical order). Students with specific problems such as short attention spans, hearing impairments or visual problems may require preferential seating.

Carefully planned seating arrangements and activity centers set the stage for the amount and direction of communication within the classroom. For example, conversations should be limited to the persons directly involved in the activity, instead of nondirected, random comments throughout the entire classroom. Clear and precise procedures for academic business and nonacademic business should be established and implemented (Englert, 1984).

POSITIVENESS

The classroom should convey a sense of positiveness where goals are clear, expectations are explicitly communicated, lessons are presented clearly, sufficient time is allocated to instruction, and the opportunity to respond is high. An orderly and pleasant, yet businesslike classroom atmosphere should be maintained. The environment should emphasize purpose and be conducive to learning (Davis and Thomas, 1989). The following are some approaches to assist with the creation of an organized learning environment:

- **Plan and post schedules for classrooms and students.** Posted schedules will help students know immediately what they are expected to do.

- **Alternate the length of tasks or activities.** Students will vary in the amount of work they can complete in one block of time. Effective teachers can manipulate the task or activity length to keep students' attention at its highest throughout the day.

- **Evolve from individual to group tasks.** Begin the school year with a majority of individual assignments to observe each child's academic strengths and weaknesses. Then gradually introduce different types of activities, such as peer work and small group instruction to determine how each child responds in the various structures.

- **Initially give work that can be finished that day and gradually stretch assignments.** By starting with a sequence of assignments that can reasonably be completed during the school day, students experience a sense of accomplishment and closure that can boost their feelings of competence and control. As success is achieved, the schedule can be stretched for longer assignments and goals (Reid, 1988).

ROUTINES AND PROCEDURES

A key tactic for establishing a favorable environment and increasing efficiency in the classroom is teaching routines and procedures. Thinking through and teaching efficient routines to the students early in the year leads to more profitable time being devoted to instruction (Reid, 1988). In the well-managed classroom, teachers actually use modeling, rehearsal, and feedback to actively instruct students in the rules and routines, just as they teach other academic behaviors. Rules, routines, and procedures are explained, posted, discussed, and rationales are provided. Gradually introduce, as needed, routines and procedures that occur throughout the day and procedures that are associated with a particular task or lesson (Englert, 1984). Rules should be retaught, as needed, throughout the school year.

By focusing on physical organization, creating a positive atmosphere, and teaching routines and procedures, teachers will create an organized, safe, fun, challenging and fair environment that has a critical impact on student learning.

III. CLASSROOM MANAGEMENT

Successful teaching and classroom management are inseparable. Although individual behavior management plans are sometimes necessary, basic classroom management is imperative to achieve a positive classroom environment. However, effective classroom management must move beyond the control of behaviors; it must create a supportive learning environment in schools that face complex and changing needs (Evertson & Harris, 1992). The key to effective classroom management is to prevent inappropriate behavior before it happens. Evertson & Harris (1992) suggest that teachers who use preventive management: "1) use time as effectively as possible, 2) implement group strategies with high levels of involvement and low levels of misbehavior, 3) choose lesson formats and academic tasks conducive to high student engagement, 4) communicate clearly rules of participation, and 5) prevent problems by implementing a system at the beginning of the school year" (p. 76). When teachers attend to disruptive behavior after it has occurred, valuable class instructional time is lost.

PLANNING

All activities within the classroom should be carefully and completely planned with all resources and materials readily available. A well-planned and organized learning environment encourages positive behavior in children. Considerations in planning should include: 1) the length and content of structured group lessons, 2) the number and structure of transitions, 3) developmental levels of individual children, 4) teacher expectations, 5) the rules and limits placed on children, 6) staff flexibility, and 7) avoidance of lengthy demonstrations and discussions. Teachers should also be prepared to alter or change plans as emergencies or unusual situations arise. In fact, successful teachers often have a set of alternative plans that may be implemented by other educators in case of emergency situations.

CLASSROOM RULES

Classroom rules should reflect the expectations concerning classroom behavior. Rules should be linked to the goals of the classroom as defined by both the teacher and the students. In general, guidelines for establishing classroom rules are: 1) involve students in setting the rules and garner consensus, 2) keep the rules short, behavior-specific, and positively phrased, 3) devise specific rules for different activities or times in the classroom to complement the more general rules, and 4) teach the rules through discussion, demonstration, posting, and reviews (Reid, 1988).

TEACHING BEHAVIOR

Many students cannot learn appropriate behavior through modeling; therefore, it is more difficult for them to behave in a manner our society deems acceptable. While this may be true, it does not make the goal of acceptable behavior less appropriate; rather, our efforts to ***teach*** students acceptable behavior must be more deliberate. Appropriate behavior must be taught just as one would teach an academic subject through principles of direct instruction. A successful classroom management program will reduce inappropriate behavior while actively teaching and reinforcing appropriate behavior. In addition, the teacher should reinforce appropriate performance, detect and respond to disruptive behavior early, and include students in the management of their own behavior.

REINFORCEMENT VS PUNISHMENT

Frequently, teachers try to maintain control in their classrooms by punishing undesired behavior. Teachers often use punishment to reduce inappropriate behavior because teachers receive immediate reinforcement for their efforts. However, Webber & Scheuermann (1991) state: "Punishment often fails to create attentive, quiet, compliant students. Scolding, ridicule, lowering of a grade, loss of privileges, temporary removal from class, suspension, or corporal punishment will not guarantee that a student will come to class on time, bring the necessary materials, or begin doing satisfactory schoolwork" (p.13). By focusing on the negative, inappropriate behavior, teachers often miss the chance to actively teach and reinforce appropriate behaviors. Successful teachers decide what the student needs to ***do*** at that moment, teach that behavior and reinforce it. The emphasis should be on the positive, appropriate student behavior (Webber & Scheuermann, 1991).

"WITHITNESS"

According to Kounin (cited in Englert, 1984), effective teachers demonstrate a trait know as "withitness" - the ability to monitor the entire class continuously while directing the learning activities of a subset of the classroom members. Rather than focusing on monitoring the behavior of a single child or group during instruction, successful teachers maintain an effective surveillance system. They position themselves carefully and attend to all activities occurring in the classroom through a process of continually scanning and making eye contact with all students outside the lesson.

Being aware of what is going on and making sure that the students know the teacher is aware are essential to good classroom management. The teacher must also be accurate in the target and timing of positive and negative consequences; that is, the right person must be promptly reprimanded or reinforced (Davis, 1989).

"OVERLAPPINGNESS"

Another trait of effective teachers is "overlappingness". Englert (1984) defines overlappingness as the teacher's ability not only to attend to two events simultaneously, but also to actually direct and respond to students outside the context of the ongoing lesson. Although teachers experience distractions and interruptions throughout the day, the skilled teacher will manage reasonable distractions by attending to a question or correction and still maintain the activity of another group of students (DeLuke, 1987). Most teachers solve this problem by setting up a system to deal with interruptions. For example, when students are exhibiting appropriate behaviors, the effective teacher uses verbal praise and encouragement to reinforce the student. Conversely, when students are exhibiting inappropriate behaviors, effective teachers use nonverbal attention signals to redirect them to the academic task. Therefore, effective teachers will hold students accountable for their behavior during independent activities without interrupting the flow of the ongoing lesson (Englert, 1984).

MOVEMENT MANAGEMENT

Many inappropriate behaviors occur during transition from one activity to another, particularly when group movement is involved. Teachers who develop, train, and monitor movement in the

classroom reduce the number of problem behaviors associated with transition. DeLuke and Knoblock (1987) state that teachers who are most successful in managing the movements of their students maintain an adequate pace and momentum and clearly communicate expectations. Teachers who involve students in the monitoring of their own behavior during transitions are not only managing movement but also are teaching a valuable skill.

ACCOUNTABILITY/MONITORING

Students tend to take seriously only that work for which they are held accountable. Skills that effective teachers practice to assure accountability include:

- Setting up routines that allow students to keep track of assignments;
- Monitoring student progress and completion rates regularly;
- Giving regular and specific academic feedback;
- Keeping instructional materials and assignment sheets readily available;
- Developing a system for dispensing supplies such as pens, pencils and papers;
- Training students in passing and collecting procedures;
- Preparing students for independent work; and,
- Giving clear, explicit instructions (Reith & Evertson, 1988).

Students who are carefully monitored and held accountable for their work do not have time to focus on inappropriate behaviors.

Teachers who use preventive strategies and interventions to reduce inappropriate behaviors increase the likelihood of compliance in the classroom. In addition, they reduce the risk of engaging in a "power struggle" with a student that will inevitably result in a loss of instructional time.

IV. EFFECTIVE INSTRUCTION

In recent years, the concept of effective instruction has been frequently discussed in educational literature. Although definitions vary, the overall focus of effective instruction literature is on teacher behaviors within an experiential learning environment that result in increased student success rates. Teacher skills required for instructional effectiveness cluster in these fundamental areas: 1) instructional planning, 2) instructional presentation, 3) instructional monitoring, 4) instructional feedback, and 5) management of student behavior (Cohen, LeRoy & England, 1992; Wolery, Bailey, & Sugai, 1988). This section of the document will discuss four of these skill areas, since classroom management is addressed in a separate section. However, this section will include accommodations that can be made in the classroom to address special instructional needs of individual students.

INSTRUCTIONAL PLANNING

Research has shown that a higher probability of retention and generalization occurs in an experiential learning environment in which responsibility for learning is placed on the student. In such an environment, the teacher acts as facilitator of learning and as a resource person rather than an instructor and evaluator. The teacher also recognizes that students learn through a variety of modalities that require diversity in teaching strategies and modes of presentation. Therefore, lessons must be carefully designed to provide a variety of learning opportunities for students to gain knowledge (LeRoy & England, 1992).

Lesson design requires careful consideration of the following steps:

1. Selection of lesson objectives from curriculum or unit guides;
2. Assurance that prerequisite skills are intact;
3. Provision of an anticipatory set telling students what they will learn, how they will learn and how long they will be studying the topic (*This aids the student in linking past learning with new learning. To create enthusiasm for the new learning, the teacher may ask students to identify personal goals and to generate questions regarding the content.*);
4. Preparation for the presentation of new information utilizing a variety of senses, active participation, and teacher modeling;
5. Preparation of a variety of small group learning opportunities with guidance from the teacher (i.e. learning stations);
6. Provision of opportunities for individual practice, including those which bridge between simulation and practical application;
7. Provision of a variety of options for expanding knowledge beyond the basic concepts;
8. Preparation of a review of the lesson objective, activities presented, and what was learned; and
9. Preparation of a variety of formal and informal assessments to determine student understanding (LeRoy & England, 1992).

INSTRUCTIONAL PRESENTATION

The effectiveness of lesson presentation is often dependent upon the effective use of time. Allocated time is a period of time designated for the teaching of the lesson. Simply allocating time is not sufficient to ensure instructional effectiveness. Engaged time refers to the amount of time that a student actively interacts with the lesson material by responding to directions, questions, and activities. Careful planning of lessons reduces the amount of time spent in non-instructional tasks such as transition, maintaining attention, and monitoring seatwork activities (Cohen, 1993). In order to make optimal use of engaged time, the lesson presentation should not only follow the lesson design as stated previously, but should also include these measures:

1. Give directions that are clear, effective, and specific.
2. Outline new content prior to the lesson and tell the students what they should be learning.
3. Use graphic organizers to illustrate concepts and relationships (e.g. semantic maps, webs).
4. Use verbal cues throughout the lesson to help students to process information and to signal them to take notes (e.g. "There are four events to remember; write this down").
5. Either pair students for notetaking or model notetaking on an overhead projector.
6. Repeat key information so students recognize its importance; focus attention on critical information.
7. Preteach features that may be difficult for the students.
8. Allow for questions throughout the presentation and frequently check for understanding.
9. Keep a brisk pace when presenting lessons.
10. Frequently link new learning to old learning (Cohen, 1993; Englert, 1984; LeRoy & England, 1992).

Note: Some of these measures may not be applicable to young students.

GROUP PRACTICE

Group practice provides an opportunity for students to work cooperatively to master content and incorporate new learning with old. Groups may be formed on the basis of student need, student interest, or be heterogeneous in design to fulfill a specific academic or social skill. The atmosphere of group work helps to reduce student isolation and fosters positive attitudes about learning (LeRoy & England, 1992). Working together in small groups also allows a student to gain direct and immediate feedback from the teacher and/or an experienced learner (Cohen, 1993). Because students learn in many different ways, group activities should be provided in a variety of formats and allow for individual student accommodations and materials adaptation (LeRoy & England, 1992).

Participation in group activities can be increased by:

- following short presentation of information with direct guided practice;
- asking students to check their own or others' work;
- developing peer dyads or triads for cooperative work, even on simple tasks;
- using oral responding for verbal practice activities and visual responding for activities that may include permanent products (e.g. "Everyone hold up one finger for true and two fingers for false.");

- providing independent practice on previously learned material to increase retention and build learner confidence; and

- ending all lessons with a firming activity that allows the student to review or apply new information" (Cohen, 1993).

PARTNERS AND PEER TUTORING

Partners are usually assigned for short periods of time or for the duration of a single lesson. Often partners work on the same skill or task; however, there may be times when pairing an advanced student with a less advanced student is advisable. This informal tutoring system allows for mastery of content for the less advanced student, while promoting confidence and responsibility in the tutor.

INDEPENDENT PRACTICE/SEATWORK

Seatwork sometimes occupies a large portion of the instructional day; therefore, it must be properly designed and managed to increase engaged time and learning. Independent practice and seatwork provide a means of determining if a student understands the concepts being taught and is able to apply the newly learned knowledge in a variety of situations (LeRoy & England, 1992). According to Englert (1984), three management techniques that can increase engaged time are: 1) monitoring seatwork, 2) fostering accuracy on seatwork tasks, and 3) holding students accountable.

Seatwork and independent practice drills should be designed so that students achieve a high level of accuracy and automaticity on the target skill. Seatwork should be used to provide direct practice on previously taught skills and ***not*** on new skills or tangential skills (Englert, 1984).

MONITORING LEARNING EXPERIENCES

To monitor seatwork, the teacher must circulate around the room and be available to answer questions and to give immediate feedback on student progress. For some students, feedback must be very specific so that the student can recognize which behaviors to change and which behaviors to maintain. The student also must be able to recognize patterns in errors so that alterations can be made. Student achievement can be enhanced through the increased attention and feedback that is presented as effective praise. Cohen (1993) includes the following recommendations from Brophy's 1982 work on effective praise:

- Deliver corrective feedback following a response error and reinforcement following an appropriate response.
- Give specific rather than general feedback whenever possible.
- Use a variety of praise and correction statements in order to increase the credibility of each statement.
- Deliver corrections without being completely negative toward the student's response.
- Acknowledge effort as well as achievement in order to increase the learner's independence.
- Focus student attention on the behaviors that lead to success.

- Individualize feedback so that the student evaluates achievement in terms of his or her own performance.
- Focus the student's attention on which behaviors need to be altered and how best to change them to achieve success (p. 174).

Students should also be held accountable for the completion of seatwork. Effective teaching literature recommends a system to monitor student progress and track assignment completion. Students should be expected to complete assignments on time with acceptable neatness and accuracy (Englert, 1984).

It is important for students to become responsible for their learning and learn to function independently. For students to become independent and self-directed in the classroom, a task management system must be developed. The use of student assignment folders is one way of teaching students to be independent learners. A student folder contains weekly assignments and a checklist of weekly requirements. The student then has the freedom to complete the assignments in the order and time frame that he/she chooses. At the end of the week, the student is responsible for organizing the assignments, self-evaluating the work, and submitting the work to the teacher for evaluation. The folder system teaches the student responsibility for learning by allowing flexibility and choice in assignment completion (LeRoy & England, 1992).

ASSESSMENT OF MASTERY

Assessment of student mastery of skill and content has traditionally been accomplished through report writing, testing or special projects. However, more individualized methods of assessment are now becoming prevalent. In some cases, the criteria for assessment may be established by the student or by the cooperative group. Contracts may be written that specify the standards by which individual or group work will be judged. Criteria may vary from student to student depending on how the student wishes to meet the requirements of the assignment (LeRoy & England, 1992). Flexibility in the methods of assessment allows for students to be evaluated against their own potential rather than in comparison to other students. LeRoy and England (1992) emphasize that assessment methodology should:

- remove the anxiety associated with assessment.
- help build the student's internal locus of control.
- challenge the student to use higher order thinking skills.
- allow the student to demonstrate generalization and practical application.
- build on student interest.
- increase student knowledge of the subject (p. 21).

Just as traditional methods of assessment are changing, so are methods of reporting achievement. Although grades and report cards are still predominantly used in schools, some are now moving toward narrative reports or assessments completed by a team. This type of reporting clarifies the progress made by the student without comparison to classmates.

ASSESSING TEACHING EFFECTIVENESS

By analyzing both successful and unsuccessful lessons, the teacher is able to determine which teaching strategies are most appropriate for meeting the needs of the students. Bos and Vaughn (1991) presented a series of questions for teacher and lesson design evaluation. They are:

- **Student motivation:** Am I creating a context in which learning is valued?
- **Student attention:** Am I creating an environment in which students can and are encouraged to attend to the learning task?
- **Encouragement:** Am I creating a setting in which students are encouraged to take risks and be challenged by learning?
- **Modeling:** Are the students given the opportunity to watch, listen, and talk to others so that they can see how the knowledge or skill is learned?
- **Activating prior knowledge:** Am I getting the students to think about what they already know about a skill or topic, and are they given the opportunity to build upon that information in an organized fashion?
- **Rate, amount, and manner of presentation:** Are the new skills and knowledge being presented at a rate and amount that allows the students time to learn, and in a manner that gives them enough information yet does not overload them?
- **Practice:** Are the students given ample opportunity to practice?
- **Feedback:** Are the students given feedback on their work so they know how and what they are learning?
- **Acquisition:** Are the students given the opportunity to learn skills and knowledge until they feel comfortable and do or know something almost automatically?
- **Maintenance:** Are the students given the opportunity to continue to use their skills and knowledge as tools for further learning?
- **Generalization:** Are the students generalizing the skills and knowledge to other tasks, settings, and situations? Are the students, other teachers, or parents seeing the learning?
- **Application:** Are the students given the opportunity to apply their skills and knowledge in new and novel situations, thereby adapting their skills to meet the new learning experiences?

V. COLLABORATIVE TEAMS

"In schools that have successfully restructured to meet the needs of all students, personnel consistently identify collaborative teams and the collaborative teaming group decision-making process that they employ as keystones to their success" (Thousand & Villa, 1992, p.73). Schools need many collaborative teams to invent meaningful learning opportunities for an increasingly diverse student population. Collaborative teams capitalize upon the diverse and specialized knowledge and skills of team members. In addition, collaborative teaming is one way that many schools have achieved effective communication, decision-making, and problem solving.

RATIONALE

The rationale for collaborative teams within schools follows:

- "Team structures bring together people of diverse backgrounds and interests so that they may share knowledge and skills to generate novel methods for individualizing learning, without the need for the current dual systems of general and special education" (Thousand & Villa, 1992, p.74).

- Collaborative teams offer students a model of the type of work structure they will face in the future. Schools should structure many opportunities for students to see essential communication and collaboration skills modeled and valued by their teachers (Thousand & Villa, 1992).

- Empowering teachers through collaborative decision-making will result in desired outcomes of school restructuring such as: 1) shared ownership of problem definitions and novel solutions, 2) the exchange of skills, and 3) attendance and participation at meetings, persistence in working on difficult tasks, and attainment of the group goal (Thousand & Villa, 1992).

- Structures exist for school-based decision-making as required in West Virginia Code § 18-5A-2, §18-5A-5, and §18-5A-6, such as local school improvement councils, faculty senates, and school curriculum teams. While each of these groups has its own areas of responsibility, collaboration is the guiding principle (West Virginia Department of Education, 1994).

- "Peer coaching and interdisciplinary curriculum development are premised on collaborative relationships, as are current trends in the design and delivery of professional development programs" (Cook & Friend, 1993, p.423).

WHAT IS A COLLABORATIVE TEAM?

A team is a set of interpersonal relationships structured to achieve established goals. In most adult teams the second factor is readily achieved. The members of the team typically know the team's purpose or goal. However, many teams may have difficulty with the first factor, that is, interpersonal relationships. In collaborative teams, "we" not "me" dominates (Kansas State Board of Education, 1992).

Collaborative teams have two goals: 1) to complete the task, and 2) to maintain positive working relationships among team members. If a team accomplished a task but the experience left team

members feeling unheard, dominated, overlooked, or confused, only one of the two goals was accomplished. Also, if a team does not manage to get tasks completed, but they enjoy one another and feel good about meeting together, they still have accomplished only one of the two goals.

In collaborative teams, team members:

- Voluntarily work together to get the job done;
- Share resources;
- Respect, trust, support and assist one another;
- Value each individual's contributions equally; and
- Celebrate joint success and develop solutions to joint problems (Kansas State Board of Education, 1992; Cook & Friend, 1993).

In many schools where collaborative planning is just beginning, teams struggle to achieve the sense of "we". In a collaborative team, all members share the responsibility to bring problems and successes to the team. Developing shared ownership and responsibility for **all** students will not occur until teams collaborate effectively.

In spite of the rationale and the evident need to collaborate, the process of developing cohesive collaborative teams is not automatic. One reason is that even though educators may have received didactic information about teaming, they may not have been provided the opportunity to practice collaborative teaming prior to teaching. Preservice training programs are beginning to realize that educators need competencies in collaborative teaming. Also, the different members of collaborative teams have been prepared in different approaches, philosophies, methods and environments. In order for the team to merge this diversity of skills and expertise, it is vital for team members to recognize similar goals and build upon their varied experiences. Collaborative teams need to get a picture of who is involved in their team and what each person will be doing (LeRoy, Osbeck & England, 1994).

APPLICATIONS OF COLLABORATIVE TEAMS IN SCHOOLS

Collaboration cannot exist by itself. It can only occur when it is associated with some program or activity that is based on the shared goals of the individuals involved. It is necessary to examine the applications in which educators, parents, community members and/or students team collaboratively. Depending upon their shared programmatic goals, members of a school community can team together in many diverse ways to plan, develop and implement quality educational opportunities for all students. Current applications of collaborative teams in school follow.

I. TEACHER ASSISTANCE TEAMS

Purpose: To ensure that all students experiencing school difficulties are afforded individualized, supportive, and instructional alternatives within the regular classroom setting and to identify and refer students for multidisciplinary evaluation, when necessary.

Description: A building level team facilitates the generation of alternative instructional and/or behavioral strategies and supports teachers in their efforts to meet the needs of unsuccessful learners.

II. MULTIDISCIPLINARY TEAMS

- **Multidisciplinary Evaluation Team (MDET)**

Purpose: To select and conduct comprehensive evaluation procedures to provide the essential information that leads to decisions regarding eligibility for special education and related services for a student suspected of being exceptional.

Description: The MDET is comprised primarily of qualified personnel from the local educational agency. Based on referral concerns and the effectiveness of any attempted interventions at the teacher assistance team level, the MDET selects and conducts evaluation procedures to determine eligibility and identify the student's educational needs. The MDET uses a combination of specific measures and sources of information and evaluates many different components where appropriate. Each evaluator writes a report which is made available to the Eligibility Committee.

- **Eligibility Committee**

Purpose: To determine if a student meets eligibility criteria for one or more areas of exceptionality as specified in federal and state regulations, including the student's need for special education, that is, specially designed instruction.

Description: The Eligibility Committee consists of a team of qualified personnel from the local educational agency. This team: 1) considers all multidisciplinary evaluations reports and other relevant information, 2) determines if a student meets one or more areas of exceptionality, and 3) determines if a student needs or continues to need special education and related services. The Eligibility Committee then refers the eligible student to the Individualized Education Program (IEP) Committee with the written information. This team also refers an ineligible student to the Teacher Assistence Team and provides information concerning the evaluation and the student's educational needs.

- **IEP Committee**

Purpose: To develop a written IEP that includes all required components and to determine placement in the least restrictive environment for an eligible student.

Description: The responsibilities of the IEP Committee begin with using information from the multidisciplinary evaluation and the Eligibility Committee meeting to develop a student's IEP. The IEP Committee is a team of qualified personnel, parents, and the student (where appropriate) that meets to make important decisions regarding special education and related services for the student. All members participate as a team to reach consensus regarding present levels of educational performance, annual goals, short-term instructional objectives, and, finally, placement.

III. COOPERATIVE /COLLABORATIVE TEACHING TEAMS

Purpose: To develop appropriate accommodations and provide instruction that efficiently and effectively meet the needs of all students within the regular classroom.

Description: Special and general educators implementing predetermined instruction in a coordinated fashion within a heterogenous general education classroom to ensure optimal instruction for all students. Co-teaching can look different in each classroom or with each teaching team. Three cooperative (co-teaching) arrangements follow.

- **Complementary Instruction**

A complementary instruction arrangement of a co-teaching team involves the general education teacher maintaining primary responsibility for teaching the specific subject matter in the instructional program. The special educator assumes primary responsibility for students' mastery of the academic survival skills necessary to acquire the subject matter. This approach is especially suited for instruction at the secondary level.

- **Team Teaching**

Instruction provided through a team teaching cooperative arrangement relies on the general and special educator jointly planning and teaching academic subject content to all students.

- **Supportive Learning Activities**

In this approach to cooperative teaching, general and special educators develop and deliver instructional content collectively in the general education classroom. The general education teacher maintains responsibility for delivering the essential content of the instruction, while the special educator is responsible for developing and implementing supplementary and supportive learning activities. Both teachers are present and cooperatively monitor both types of learning activities for all students.

IV. PEER COACHING

Purpose: To enhance the understanding and use of instructional strategies and/or new curriculum among teachers at the building level.

Description: Pairs or teams of teachers provide one another feedback and observations regarding the instructional strategies that each teacher is learning and implementing. The relationship among the team members is a collegial and reciprocal one. The teachers are not supervising or evaluating one another; they are colleagues coaching one another.

V. PEER MENTORING

Purpose: To facilitate a positive teaching and learning experience for teachers who are new to the field or their present educational setting.

Description: The relationship between experienced and new teachers during the first year of teaching is a critical factor that affects job performance. Beginning teachers want to acquire professional autonomy and status equality with their peers. Peer mentoring helps individuals develop the skills and attitudes of self-reliance and accountability. The peer mentor assumes the role of friend, role model, coach, a link to resources, and facilitator. The partnership between the mentor and mentee is based upon trust and communication. This partnership is established through ongoing informal contacts and formal observations and conferences.

VI. SCHOOL-BASED INCLUSION/PLANNING TEAMS

Purpose: To plan for providing all students within a school a quality education in age-appropriate integrated academic, social, physical and community settings.

Description: A building level team consists of volunteer regular and special educators, administrators, paraprofessionals, parents and students, as appropriate, who are committed to inclusive programming. The team develops the school's strategic plan for inclusion; provides resources for staff and parents; provides opportunities for teacher input and participation; and provides systematic support for staff. This is accomplished by using a creative, team approach to problem solving and by celebrating successes. The team has scheduled meetings and develops a system for scheduling time, taking minutes, and informing members who are not present.

VII. STUDENT PLANNING/SUPPORT TEAMS

Purpose: To plan and assess the on-going instruction and education programs for individual students with intensive needs and provide team members with on-going planning and support. These students may be in family crisis, exhibiting social or behavior problems, returning from residential treatment for alcohol/drug abuse or psychiatric treatment, or being integrated into regular schools and classrooms.

Description: In order to better meet the needs of all students, many schools have formed student planning/support teams for any individual student who may need support but may not necessarily have an IEP. For a student with an IEP, the student planning/support team may look very similar to the IEP team; however, the IEP team typically meets once a year to develop/revise the IEP while the student planning/ support team meets regularly. The team's goals are to plan for the transition of the student from year to year and to maintain quality educational programming throughout each year. They provide a vehicle for creative problem solving, regular home-school communication, proactive rather than reactive planning, consistent support to teachers and parents, and program coordination.

The core team of the individual student's planning/support team includes the people most directly involved with the student such as the principal, parent(s), and classroom teachers. The expanded team includes members who may advise the core team as needed or may also be part of selected student's core team depending on the needs of the students and the team, e.g., school counselor, school psychologist, classroom aide, related services personnel, student peer, specialists, school nurse.

VIII. PEER TUTORING

Purpose: To provide assistance in any area where the student requires additional instruction or practice.

Description: Peer tutoring refers to a situation where one student assists another. Benefits may include increases in academic and social skills, self-esteem, and positive relationships. Academic tutoring can address any area where the student requires additional instruction or practice.

Peer tutoring has various forms: 1) spontaneous peer tutoring where students assist one another with classroom assignments; 2) mastery-based peer tutoring where specific skills are pinpointed and instruction is provided daily until the skills are mastered; and 3) classwide peer tutoring where students question one another so that specific content is learned. Peer tutoring can be an effective instructional procedure that provides opportunities for more active responding in academic tasks and enhances academic success and positive interpersonal relationships.

IX. STUDENT PEER SUPPORT TEAMS

Purpose: To enable students with disabilities to participate more fully in the total educational setting.

Description: Whereas peer tutoring primarily focuses on the development of academic and social skills, the focus of peer support teams is to enhance another student's school life. Peers may assist a student with physical disabilities in traveling to a class, problem solve in a small group to assist/help another student with a concern, help identify appropriate social integration goals at IEP meetings, or provide insight regarding the transition planning for a student with a disability. Peer support networks have helped to make heterogeneous schools places where students' learning is expanded to include an understanding of one another's lives.

VI. INDIVIDUALIZED INSTRUCTION: HOW TO IMPLEMENT THE IEP ON A DAILY BASIS

Individualized programming is a basic premise for instructing students with exceptionalities. "Individualized programming attempts to match the learner, the task, and instructional interventions to ensure optimal student growth "(Mercer & Mercer, 1989, p.5). Both content, "what to teach", and instructional method, "how to teach", must reflect the needs of the learner (Bos & Vaughn, 1991). An analysis of a student's IEP provides the framework of "what to teach" whereas "how to teach" relies upon an analysis of the learner within the instructional setting.

A. WHAT TO TEACH

The "what to teach" is expressed as objectives or subskills that are stated in observable terms (behaviors that can be seen, measured, heard, or counted) (West Virginia Department of Education, 1993). These objectives/subskills describe the desired student performance and also establish a standard to determine whether the student has attained the desired level of performance.

STEP 1: REVIEW THE IEP

"The IEP represents school based, child-focused decision-making" that defines special education for the individual student (West Virginia Department of Education, p. vii, 1993). The goals and objectives on the IEP describe the specially designed instruction necessary to meet the student's unique educational needs. Writing goals and objectives that can be linked to present levels of educational performance statements ensures that the student's program is truly individualized rather than fitting the child into an established program (Polloway, Patton, Payne,& Payne, 1989). The annual goals and short term objectives of the IEP provide the framework and direction for daily instruction by outlining curriculum areas, targeting specific skills, and establishing performance standards.

STEP 2: ANALYZE THE SHORT-TERM OBJECTIVES

Objectives on the IEP project what is to be accomplished over an extended period of time. To prepare daily instructional plans, however, more specific outcomes must be established (34 CFR §300, App. C). More specific outcomes, or objectives, can be established by analyzing the short-term objectives into the essential subskills required to attain the short-term objective. An analysis of the short-term objectives enables the teacher to specify and describe the component subskills which must be mastered for the student to perform the objective (Howell & Kaplan, 1979). This analysis can be accomplished by: 1) referring to established curriculums, 2) reviewing scope and sequence charts, 3) examining the format of material, and/or 4) conducting a task analysis of the skill.

STEP 3: GROUP/ARRANGE THE SUBSKILLS

After identifying the essential subskills that a student must master before accomplishing the

short-term objective, the subskills must be sequenced by level of complexity or clustered into a group of interdependent subskills. When subskills must be mastered sequentially to accomplish the short-term objective, they should be ordered by level of complexity from most to least difficult into a hierarchy or task ladder. In a hierarchy or task ladder, the student must successfully master the least difficult subskill before mastering the next more difficult subskill (Howell, Kaplan, & O'Connel, 1979).

The acquisition of a particular subskill is not always dependent upon a preceding subskill; therefore, not all subskills can be easily sequenced into a hierarchy or task ladder from most to least difficult. Whether clusters of subskills can be sequenced often depends upon the interdependence of the subskills. "When groups of subskills are interdependent and cannot be arranged according to complexity or level of difficulty, these clusters of subskills resemble a tree or pie of interdependent subskills of the same difficulty level" (Howell et al., 1979 p. 81 - 82). Mastery of all the subskill clusters is necessary for the completion of the short-term objective.

Example of subskill tree or pie:

Objective: When presented with a list of 10 words and a dictionary, the student will locate 8 out of 10 words in fifteen minutes.

Task: The student will locate words in the dictionary.

- Subskill 1: The ability to match words.
- Subskill 2: The ability to alphabetize words.
- Subskill 3: The ability to estimate where the word is in the dictionary.

Example of a hierarchy of subskills:

Objective: The student will skip for 20 feet using alternate feet with no errors.

Task: Skipping

- Subskill 1: The ability to hop on alternate feet.
- Subskill 2: The ability to hop on one foot.
- Subskill 3: The ability to alternate standing on one foot.
- Subskill 4: The ability to stand on one foot. (Howell et al. 1979)

STEP 4: ESTABLISH CONDITIONS AND A CRITERION FOR EACH SUBSKILL

The conditions specify the circumstances under which the student will accomplish the subskill. Conditions may include specific materials, methods, modification, or type of assistance. When

possible, the conditions under which a behavior will take place should be similar to the conditions imposed on the student in the real world (Howell & Morehead, 1987).

Examples:

. . . in writing with no prompts;
. . . using a calculator;
. . . using a computer with a touch window from a fifth grade level text.

Criterion specifies the desired level of student performance. Objective criteria should be based upon which subskill is being taught and the level of skill to be obtained (West Virginia Department of Education, 1993).

Examples:

. . . with 85% accuracy;
. . . with no more than two errors in 3 minutes;
. . . a minimum of 2x a day for 3 consecutive days and with no errors.

STEP 5: DETERMINE THE STUDENT'S MASTERY OF THE SUBSKILL

The student's mastery of each subskill must be determined, since all subskills are essential for the completion of the short-term objective. For hierarchies or ladders of subskills, determine the student's mastery by testing down, beginning with the most difficult subskill. If the student can perform the first or second most difficult task, one can assume that the student is capable of performing subskills requiring less complex skills or knowledge. Testing down saves valuable instructional time. For clusters of subskills that cannot be arranged hierarchically, all subskills must be evaluated (Howell, et al. 1979).

STEP 6: ANALYZE THE STUDENT'S RESPONSES

An analysis of the student's responses when determining level of subskill mastery will provide necessary information for decision-making regarding what and how to teach. This analysis regarding what to teach may be accomplished by addressing the following questions:

- Was this the student's best performance?
- Are there patterns of errors?
- Are there consistent errors?
- Are there inconsistent errors?
- Was the subskill too difficult?
- Did the student possess the prerequisite skills necessary to perform the subskill?
- Did the student apply the appropriate strategy?
- Did the conditions prohibit/interfere with performance? (e.g. production versus recognition or written response versus an oral response)
- Were the subskills appropriately sequenced?
- Were the essential subskills identified?

Inspecting the student's incorrect responses may identify a pattern of errors that contributes to the incorrect responses (clusters of skills that are deficient) and/or consistent errors (specific

mistakes made every time the task was presented). In analyzing patterns or consistent errors, it is just as important to consider the items performed correctly as those performed incorrectly. If the teacher focuses only on the missed items, he/she may fail to recognize the numerous instances where the subskill was performed correctly. Such a pattern of performance suggests that the subskill has been learned, but not mastered totally.

Hypothesizing the causes of errors helps the teacher to clarify what further information is needed about the student, what skills need to be tested, and under what conditions (Zigmond, 1983). Students may fail at subskills because they are missing prior knowledge, do not demonstrate appropriate strategies to apply the subskill, or cannot perform the skill consistently under the specified conditions. If several factprs contribute to a student's incorrect responses, list them according to their probability with the most likely cause first.

B. HOW TO TEACH

The "how to teach" is the method of presentation; it describes the teaching process and any instructional materials to be used. "How to teach" should be interpreted as "How can good instruction be more responsive to individual differences?" or "Under what conditions is the student easier to teach and more likely to learn?" (Zigmond,1983). "Teaching is an experimental process"; therefore, the best way to decide "how to teach" is to teach (Algozzine & Ysseldyke, 1992). Hypotheses regarding the creation of optimum learning conditions are based upon the teacher's knowledge about the student and the learning environment. Knowledge of the student and knowledge of strategies that have been successful with similar students are also essential in making "how to teach" decisions.

It is not possible to accurately analyze a student's learning without reference to the environment nor is it possible to analyze the environment without reference to its impact on the student. This interaction between the student and the environment is continuous, reciprocal, and interdependent. Ongoing evaluation provides information relevant to student characteristics, student performance, and instructional variables. Learner characteristics that must be considered in "how to teach" decisions include age, interests, preferences, response to motivators, stage of learning, and approach to tasks. Instructional variables that must be considered in "how to teach" decisions include size of instructional group, mode of instruction/lesson delivery, and schedule of reinforcement.

STEP 1: DETERMINE THE STUDENT'S PERFORMANCE FOR EACH SUBSKILL

"How to teach" decisions involve both curriculum and instruction. To decide "how to teach", one must first collect data on the student's current skill performance and how well the student is performing in response to instruction" (Howell & Morehead, 1987, p.102). Student performance can be described and specific instructional methods recommended based on the four stages of learning: acquisition, fluency, maintenance, and generalization.

Acquisition Stage - During the acquisition stage, the goal of instruction is for the student to perform the skill accurately. "Students who require instruction at the acquisition stage either have not acquired the skill or seem to be accurate but are often described as very slow in performing the skill" (Howell & Morehead, 1987, p. 100). Acquisition strategies are based upon the principles of direct instruction that include: 1) modeling, 2) guided practice, 3) corrective feedback, 4) physical

guidance, 5) shaping, 6) backward/forward chaining, and 7) errorless learning.

Advanced acquisition stage strategies feature: 1) feedback, 2) specific directions, 3) error drill, 4) reward for accuracy, and 5) response cost (Mercer & Mercer, 1989).

Proficiency Stage - At the proficiency stage, the student attempts to learn the skill at a more automatic level; the focus is increasing speed of performance. Proficiency or fluency strategies include: 1) drill and practice (independent work folders, programmed materials), 2) modeling, 3) provision of incentives, and 4) manipulation of reinforcement schedules (Mercer & Mercer, 1989).

Maintenance Stage - The maintenance stage involves the ability to maintain a high level of performance over time once direct instruction or reinforcement has been withdrawn (Polloway & Payne, 1989; Mercer & Mercer, 1989). Maintenance strategies include: 1) overlearning, 2) intermittent reinforcement schedules, 3) self-management, and 4) distributed practice (Mercer & Mercer, 1989).

Generalization Stage - During the generalization stage, the learner performs the skill across different settings, at different times, and/or within more complex tasks (Mercer & Mercer, 1989). The goal of instruction is to teach the student to apply a specific skill within more complex tasks and/or across a variety of settings. Generalization of skills strategies include: 1) teaching responses likely to be maintained in natural environments, 2) varying training models (use different teachers, settings, materials), 3) varying instructional factors while teaching (vary instructions, setting, stimuli), 4) changing reinforcement strategies (vary the amount, type, power, and/or schedule of reinforcers), 5) using stimuli in training that are found in natural environments (use actual classroom texts, peer tutors), and 6) teaching learners to self-instruct, self-monitor, and self-reinforce (Refer to Appendix II).

Rather than viewing generalization as a stage that the learner attains after acquisition and proficiency, generalization might be conceptualized better as a framework for the instructional sequence (Mercer, 1989, p.11).

No objective is complete until the behavior has been performed fluently:

- for someone who did not teach it:
- in a different setting;
- in response to different conditions; and
- in response to natural conditions where the behavior is needed (Wolery, Bailey, & Sugai, 1988).

STEP 2: EVALUATE STUDENT CHARACTERISTICS

Student learning is influenced by both student and environmental characteristics. Evaluation and consideration of student and instructional environmental characteristics permit teachers to design learning environments that maximize the student's achievement and active involvement in the learning process. The more actively students participate in the learning process, the greater the

opportunity for them to benefit from instruction (Zigmond, 1983). Attention to these characteristics influences how the teacher arranges instruction, selects materials, and organizes a management and reinforcement system. The evaluation of student and instructional characteristics can be accomplished in a variety of ways: systematic observation, surveys, evaluation of work samples, trial teaching, and interviews with teachers, students, and parents.

Student Characteristics:

A framework for gathering information that provides insight into the individual processes and strategies of learning for a student include: 1) attention, 2) organization, 3) sequencing, 4) interaction, 5) motivation/reinforcers, 6) self-concept, 7) preferred mode or output of instruction, and 8) comprehension (Refer to Appendices III & IV).

Instructional/Environmental Characteristics:

Systematic gathering of information about the instructional environment allows teachers to structure the environment to maximize learning. Characteristics of the instructional environment that should be addressed when planning "how to teach" are: 1) the nature of the materials, 2) the nature of the activities, and 3) the nature of the instruction (Refer to Appendices I, III & V).

STEP 3: COLLECT STUDENT PERFORMANCE DATA AND MONITOR PROGRESS

Collecting data and monitoring student performance during instruction enables teachers to adjust their instruction to permit optimal learning. Guidelines for monitoring student progress include:

- Observing the student's process for completing the task as well as the product;
- Having the student talk through or explain what he or she is doing or thinking while completing the task;
- Noting not only whether the student can complete the task successfully, but how confident or proficient the student is in completing it; and
- Evaluating not only for accuracy but also for fluency, maintenance, generalization, and application of the skill or knowledge.

Since collecting student performance data is critical for efficient and effective student learning, teachers must plan and organize an evaluation system by:

- Determining what to evaluate;
- Determining how to evaluate (e.g. progress charts, graphs, portfolio assessments, progress journals, and criterion referenced tests);
- Determining if and when student self-monitoring will be used;
- Developing forms for evaluation; and
- Organizing the system so that data is easy to collect, file, and retrieve (Bos & Vaughn, 1991).

STEP 4: ADJUSTING INSTRUCTION

The purpose of individualized instruction is to monitor and alter instruction to produce better

results. If a student is not making adequate progress on a specified skill, changes should first be made in the way the student is taught and not in the content or objectives (Refer to Appendix VI). Student performance data can provide information that is valuable in guiding "how to teach" and "what to teach" decisions (Refer to Appendix VII). A reexamination of both instructional and student characteristics may also lend additional insight regarding instructional alternatives. The following questions will assist the teacher in adjusting instruction:

- Is the objective appropriate for the student?
- Would the task be more easily learned in isolation or in context?
- Should accuracy, fluency, or generalization be emphasized?
- Should the lesson be more interesting?
- Should the setting, materials, or instruction be modified?
- Is more information needed to answer these questions? (Howell and Morehead, 1987)

There are no "instant, simple, easy to implement-solutions when designing individualized instructional programs" (Ysseldyke, 1991, p. 229). Instead, "targeted and productive instruction" (Zigmond, 1983 p.341) that maximizes student learning must be planned by combining self-evaluation of teacher performance with evaluation of student performance and by systematically addressing the components of the "what and how to teach" steps.

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VIII. GLOSSARY

Appropriate Behavior - Behavior that does not interrupt the teaching or learning process.

Backward Chaining - The procedure for teaching a chain of behaviors by teaching the last response in the chain first, then the next to the last, and so on, until the student can perform the entire chain, a single complex behavior after a single instruction.

Chaining - An instructional procedure that reinforces individual responses in sequence to form a complex behavior.

Corrective Feedback - Refers to telling students what they are doing well and identifying areas where they require further assistance.

Deductive Presentation - Main idea is presented first with the details following.

Direct Instruction - A teacher directed instructional approach using sequenced and structured materials with an academic focus.

Distractibility - Inability to direct and sustain attention to the appropriate or relevant stimuli in a given situation.

Distributed Practice - Practice is scheduled for short periods (e.g. 15 minutes) over a certain amount of time.

Disruption - Behaviors, actions, or utterances that disturb, distract, or otherwise bother others.

Drill and Practice - An instructional procedure that provides opportunities for repeated practice to increase proficiency of a learned skill.

Effective Instruction - Teacher behaviors within an experiential learning environment that result in increased student success rates.

Errorless Learning - An instructional procedure that provides prompts and stimuli that preclude students from performing an incorrect response.

Forward Chaining - The instructional procedure that involves teaching a behavior to criterion, reinforcing it, and then moving on to the next behavior.

Guided Practice - The student practices the selected task/skill with guidance (e.g., prompts, cues, feedback).

Inductive Presentation - Main idea is presented later or left to be inferred.

Inappropriate Behavior - Behavior that does or is likely to interrupt the class and/or makes it difficult for teachers or peers to continue the task at hand or ongoing classroom activity.

Individual Behavior Management Plan - A written behavioral plan developed to manage problem behaviors for individual students.

Intermittent Reinforcement - Schedules in which reinforcement follows some, but not all, correct or appropriate responses or follows when a period of appropriate behavior has elapsed.

Modeling - Demonstrating a desired behavior/skill to prompt an imitative response.

Overlappingness - The teacher's ability not only to attend to two events simultaneously, but also to actually direct and respond to students outside the context of the ongoing lesson.

Overlearning - A method that involves repeated drill beyond the accuracy and fluency already achieved to ensure maintenance of a skill.

Physical Guidance - A procedure in which the teacher manually guides the student through the motions of a specific skill (e.g. motor skills, dressing).

Punishment - The process wherein a particular response is followed by a consequence and subsequently is less likely to occur.

Reinforcement - Any event that follows a behavior and results in maintaining or increasing the behavior.

Reinforcement Schedules - Rules that designate how many, how frequently, or which responses will be reinforced.

Response Cost - A type of punishment that is based on withdrawal of positive reinforcement.

Self-Instruction - A student is taught to make specific self-statements or suggestions to prompt specific types of behaviors.

Self-Management - Students are able to successfully manage their own social and academic behaviors by accepting responsibility for their own actions and learning.

Self-Monitoring - An intervention associated with cognitive behavior modification in which students record the frequency of a given behavior or a set of behaviors.

Self-Reinforce - Students have the opportunity to reward or reinforce themselves when they perform appropriately.

Shaping - Reaching an academic or behavioral goal through the achievement and mastery of the subgoals. This process involves establishing a shifting performance criterion to reinforce gradual increments of behavior.

Specially Designed Instruction - a) That part of the regular education curriculum that must be modified to the extent that it cannot be provided within the regular classroom without supplementary aides and services; b) that part of the regular education curriculum that must be delivered through

altered or different strategies or specialized materials to the extent that it cannot be provided in the regular classroom even with supplementary aids and services; and/or c) a specialized curriculum that is significantly different than the regular education curriculum.

Stimulus - Any physical event or condition.

Task Analysis - The process of isolating, sequencing, and describing the essential components of a task/objective.

Transition - The process of moving a student from one program placement to another.

Trial Teaching - An extension of the assessment process wherein a teacher continues to collect information about student while teaching him/her (also referred to as diagnostic teaching, trial lessons or teaching probes).

Withitness - The ability to monitor the entire class continuously while directing the learning activities of a subset of the classroom members.

APPENDIX I

SELF RATING SCALE

Respond to each item in terms of the extent to which it describes yourself:

(1) Not at all descriptive
(2) Descriptive to a small extent
(3) Descriptive to a moderate extent
(4) Descriptive to a large extent
(5) Descriptive to an extremely large extent

CLASSROOM MANAGEMENT

Competencies Evaluation	**Performance**
1. Classroom Set-up and Organization	
1.1 The classroom environment suggests consideration for the developmental and physical needs of all students.	1 2 3 4 5
1.2 A procedure exists to minimize interruptions, both from external and internal sources.	1 2 3 4 5
1.3 Establishes and implements procedures for nonacademic class business (e.g. tardiness, material use, movement in and out of room, distributing materials, talk among students, bathroom breaks).	1 2 3 4 5
1.4 Provides planning, practice and feedback for reorganization of classroom procedures and student behaviors.	1 2 3 4 5
2. Teaching Rules and Procedures	
2.1 Teacher expectations are detailed, defined and discussed with students, in advance of activity.	1 2 3 4 5
2.2 Clearly introduces rules, procedures, and consequences at beginning of school year and whenever needed.	1 2 3 4 5
2.3 States rules, posts rules and provides discussion of rules at the time of their introduction.	1 2 3 4 5
2.4 Routinely revises rules to reinforce expectations.	1 2 3 4 5
2.5 Uses cues to refocus students when inappropriate behaviors occur.	1 2 3 4 5
2.6 Uses hypothetical situations with students to facilitate problem solving, using the rules.	1 2 3 4 5
2.7 Monitors rule compliance and consistently applies the rules fairly but with regard to circumstances.	1 2 3 4 5
2.8 Intervenes during rule infractions to suggest appropriate alternative reactions.	1 2 3 4 5

3. Maintaining Rules and Procedures

3.1 Uses proximity as the primary technique to reduce classroom misbehavior.	1	2	3	4	5
3.2 Scans constantly and makes eye contact with all students on an equal basis.	1	2	3	4	5
3.3 Detects disruptive behavior early and cites rule or procedure in responding to disruptive behavior.	1	2	3	4	5
3.4 Uses praise liberally to promote continued rule following.	1	2	3	4	5
3.5 Permits students to offer explanations for seemingly inappropriate behavior.	1	2	3	4	5
3.6 Uses nonverbal signals to direct students when teaching other groups of students.	1	2	3	4	5

INSTRUCTIONAL ORGANIZATION

Competencies Evaluation	**Performance**				
1. Allocated Time					
1.1 Student instruction involves multiple instructional strategies and 80% of the allotted class time is spent in instructional activities.	1	2	3	4	5
1.2 Time is viewed as a learning variable and a plan to minimize non-instructional time is developed.	1	2	3	4	5
1.3 Keeps transition time between lessons short (e.g., no more than 3 minutes between change of students and activity; no more than 30 seconds when a change of activity only).	1	2	3	4	5
1.4 Students are familiar with and respond to teacher cues to begin and end instructional activities.	1	2	3	4	5
1.5 Constantly monitors class for student attention and redirects to task.	1	2	3	4	5
1.6 Teacher directions prepare students for subsequent lessons which include student expectations, responsibilities and evaluation.	1	2	3	4	5
2. Engaged Time					
2.1 Student assignments are meaningful, creative and capture individual student attention at a level of at least 80%.	1	2	3	4	5
2.2 Provides encouragement and feedback as the teacher monitors seatwork.	1	2	3	4	5
2.3 Communicates the purpose and importance of assigned work.	1	2	3	4	5
2.4 Maintains high standards for class work (neatness, accuracy, due dates).	1	2	3	4	5
2.5 Seeks alternative methods to assist student in mastery of skill or content.	1	2	3	4	5
2.6 Provides enrichment or extension activities for those students who have	1	2	3	4	5

achieved early mastery.

2.7 Provides class time to review independent work.	1	2	3	4	5
2.8 Evaluates the key concept or skill and provides corrective feedback.	1	2	3	4	5
2.9 Requires that students correct work and make up missed or unfinished work.	1	2	3	4	5
2.10 Gives informative feedback to students in making written or verbal corrections.	1	2	3	4	5

TEACHING PRESENTATION

Competencies Evaluation	**Performance**				
1. Lesson Presentation - Introduction Phase					
1.1 Reviews prior learning of previous day's skills by requiring active student participation.	1	2	3	4	5
1.2 States the daily learning objectives of the lesson and communicates to students what they will be expected to do to demonstrate mastery of the new skill.	1	2	3	4	5
1.3 Provides an overview of the lesson.	1	2	3	4	5
1.4 Relates new concepts to old by stating how a new skill is like or different from those the student already knows.	1	2	3	4	5
1.5 Encourages students to bridge past knowledge to current learning.	1	2	3	4	5
1.6 States the rationale for skill mastery.	1	2	3	4	5
2. Demonstration Phase					
2.1 Models topography of behavioral response for factual learning, and models steps of a procedure in procedural learning.	1	2	3	4	5
2.2 Gives examples of concepts that do and do not show problem solving using newly acquired skills.	1	2	3	4	5
2.3 Uses cues, encouragement and wait time to assist reluctant students in lesson mastery.	1	2	3	4	5
2.4 Presents divergent questioning to expand critical thinking.	1	2	3	4	5
2.5 Presents and explains many examples and nonexamples of new concepts.	1	2	3	4	5
2.6 Provides discrimination activities (e.g. series of examples and non-examples) to test student performance and understanding.	1	2	3	4	5
2.7 Asks students to give rationale or explain decision in determining why particular instances are examples or nonexamples of the concept.	1	2	3	4	5

2.8	Delivers specific cues and prompts prior to the initiation of student response to maintain accuracy above 80%.	1	2	3	4	5
2.9	Asks frequent questions to test understanding and provides opportunities for academic practice.	1	2	3	4	5
3.	Extended Practice Phase and Evaluation					
3.1	Provides multiple opportunities for practice of new skills.	1	2	3	4	5
3.2	Uses appropriate reinforcement contingent upon effort or increased success.	1	2	3	4	5
3.3	Provides error drill by repeatedly presenting concepts on which students have erred.	1	2	3	4	5
3.4	Evaluates often to illustrate importance and provide opportunities for success.	1	2	3	4	5
3.5	Maintains a brisk pace during the lesson.	1	2	3	4	5
3.6	Makes available progress charts, class records or graphs to monitor individual student progress.	1	2	3	4	5
3.7	Provides frequent tests to determine students' mastery of academic objectives.	1	2	3	4	5
3.8	Reteaches or makes instructional decisions on the basis of students' performance.	1	2	3	4	5
3.9	Maintains continuous records and graphs of student progress.	1	2	3	4	5

Adapted from Englert, C. S. (1984). Measuring teacher effectiveness from the teacher's point of view. *Focus on Exceptional Children.*

APPENDIX II:

GENERALIZATION STRATEGIES

1. Change Reinforcement

Description/Methods	Examples
Vary amount, power, and type of reinforcers.	
• Fade amount of reinforcement.	◇ Reduce frequency of reinforcement from completion of each assignment to completion of day's assignments.
• Decrease power of reinforcer from more tangible reinforcers to specific verbal praise.	◇ Limit use of stars/stickers and add specific statements, e.g., "Hey, you did a really good job in your math book today. You completed the assignment and asked for help."
• Increase power of reinforcer when changing to mainstreamed setting.	◇ Give points in regular classroom although not needed in resource room.
• Use same reinforcers in different settings.	◇ Encourage all teachers working with student to use the same reinforcement program.

2. Change Cues

Description/Methods	Examples
Vary instructions systematically.	
• Use alternate/parallel directions.	◇ Use variations of cue, e.g., "Find the ..."; "Give me the ...", "Point to the ...."
• Change directions.	◇ Change length and vocabulary of directions given in the regular classroom, e.g., "Open your book to page 42 and do the problems in set A."
	◇ Move from real objects to miniature objects.
• Use photograph.	◇ Use actual photograph of object or situation.
• Use picture to represent object.	◇ Move from object/photograph to picture of object or situation.
• Use line drawing or symbol representation.	◇ Use drawings from workbooks to represent objects or situations.
• Use varying print forms.	◇ Vary lower and upper case letters;

vary print by using manuscript, boldface, primary type.

- Move from manuscript to cursive.

3. Change Materials

Description/Methods	Examples
Vary materials within task.	
• Change medium.	◇ Use unlined paper, lined paper; change size of lines; change color of paper.
	◇ Use various writing instruments such as markers, pencil, pen, typewriter.
• Change media.	◇ Use materials such as films, microcomputers, filmstrips to present skill/concepts.
	◇ Provide opportunity for student to transition to new setting.

4. Change Response Set

Description/Methods	Examples
Vary mode of responding.	
• Change how student is to respond.	◇ Ask child to write answers rather than always responding orally.
	◇ Teach student to respond to a variety of question types such as multiple choice, true/false, short answer.
• Change time allowed for responding.	◇ Decrease time allowed to complete math facts.

5. Change Some Dimension(s) of the Stimulus

Description/Methods	Examples
Vary the stimulus systematically.	
• Use single stimulus and change size, color, shape.	◇ Teach colors by changing the size, shape, and shade of "orange" objects.
• Add to number of distractors.	◇ Teach sight words by increasing number of words from which child is to choose.
• Use concrete (real) object.	◇ Introduce rhyming words by using real objects.
• Use toy or minature representation.	◇ Use minature objects when real objects are impractical.

6. Change Setting(s)

Description/Methods	Examples
Vary instructional work space.	
• Move from structured to less structured work arrangements.	◇ Provide opportunity for independent work. ◇ Move from one-to-one instruction to small-group format. ◇ Provide opportunity for student to interact in large group, small group, pairs. ◇ Establish learning stations, self-correcting materials

7. Change Teachers

Description/Methods	Examples
Vary instructors.	
• Assign child to work with different teacher/individual	◇ Select tasks so that child has opportunities to work with instructional aide, peer tutor, volunteer, regular classroom teacher, and parents. - cooperative learning - peer tutoring (cross & same age) - classwide student tutoring teams

Source: S. Vaughn, C.S. Bos, and K.A. Lund, *Teaching Exceptional Children* (Spring 1986): 177-178 in Bos, C.S. and Vaughn, S. (1988). *Strategies for Teaching Students with Learning and Behavior Problems.* Needham Hts, MA: Allyn and Bacon.

APPENDIX III

EVALUATION OF INSTRUCTIONAL NEEDS

1) Have the student's instructional levels been identified?

2) Place a check on the kinds of tasks, activities and materials on which the student spends the most time. Place an X on the kinds of task, activities and materials on which the student is most successful.

[ ] Cooperative learning

[ ] Creative paper-pencil

[ ] Reading

[ ] Verbal discussion

[ ] Worksheets requiring recall (e.g., fill-in-the-blank)

[ ] Worksheets requiring recognition (e.g., multiple choice, true/false)

[ ] Tasks reinforcing one skill

[ ] Tasks reinforcing multiple skills

[ ] Simple cognitive demands (e.g., locating facts, matching)

[ ] Complex cognitive demands (e.g., drawing conclusions)

[ ] Peer-assisted

[ ] Workbooks

[ ] Readers

[ ] Manipulatives

[ ] Computer-assisted instruction

[ ] Project work

[ ] Interactive teaching programs

[ ] Don't Know

Other:_____ _____

_____

3) Based upon classroom observations, check any areas in which you believe a change may be needed to provide the student with an optimal learning environment.

Characteristics of the Classroom

[ ] Room/desk arrangement

[ ] The student's seating position

[ ] Class size

[ ] Classroom noise level

[ ] Lighting

[ ] Classroom crowding/space

[ ] Number of instructional groups

[ ] Size of instructional groups

[ ] The student's peer group influence

Planning Instructional Needs for the Student

[ ] Assigning tasks matched to student skill level

[ ] Modifying classroom expectations to meet the student's needs

[ ] Selecting reading/curriculum materials

[ ] Appropriateness of the learning objective for the student

[ ] Communicating learning goals to the student

[ ] Relevance of classroom assignments for the student

[ ] Type of learning activity needed for student

[ ] The student's success rate

Managing Instructional Needs for the Student

[ ] Amount of available instructional time

[ ] Use of instructional time

[ ] The student's use of classroom space, materials, or equipment

4) Have the skills necessary for successful completion of tasks been identified?

5) What kind of teaching examples are needed by the student?

6) How many repetitions/reexplanations are needed by the student?

7) How much time is needed to acquire new skills?

8) How much time is needed to practice to mastery?

9) How much review is required to maintain a mastery level of performance?

10) How much teacher monitoring is required for completion of independent assignments?

Instructional Needs Checklist

[ ] Motivation/persistence in learning tasks

[ ] Learning rate/time needed to learn

[ ] Attention

[ ] Activity level

[ ] Learning style

[ ] Status characteristics (e.g., parents' educational level, SES level)

[ ] Attendance

[ ] Use of out-of-school time

[ ] Family involvement in student's learning

[ ] Home-school communication

[ ] Attitude toward school and learning

[ ] Attitude toward others (teachers, peers)

[ ] Self-concept

[ ] Ability to cope with failure

[ ] Self-control strategies

[ ] Behavior

[ ] Memory

[ ] Reasoning ability

[ ] Attributes for success/failure

[ ] Other: _____

_____

_____

Adapted from *The Instructional Environment System - II: A System to Identify a Student's Instructional Needs* (Instructional Environment Form and Instructional Needs Checklist) by James Ysseldyke & Sandra Christenson, 1993-94, Longmont, CO: Sopris West.

APPENDIX IV

INSTRUCTIONAL NEEDS OBSERVATION

Survey Conditions: Task: _____

Size of Group: _____ Criterion: _____

Mode of Instruction: _____

Teacher Involvement: _____ Date: _____

Students	Time required for task	Seeks help from teacher	Requires corrective feedback	Works independently	Completes Task

Zigmond, N., Valleconsa, A. & Silverman, R. (1983). *Assessment for instructional planning in special education.* Englewood Cliffs, N.J: Prentice Hall, 277.

APPENDIX V

Hypotheses and Next Steps for Assessment of Instructional Needs

SURVEY CONDITIONS	HYPOTHESIS	NEXT STEP
Size of Group		
Large-group instruction	Directions confusing Pace too fast Social environment threatening	Try small group
Small-group instruction	Pace too fast Social environment threatening	Try one-to-one
Individual task without teacher	Distracted/inattentive Directions confusing Needs reinforcement/ encouragement	Try one-to-one
One-to-one task with teacher	Does not have prerequisite skills for subject matter	Try easier task. Refer to Appendix VI (easier tasks should be the last alternative). Review assessment data
Mode of Instruction		
Oral	Inattentive Needs visual cues Pace too fast	Try visual cues/different size group
Visual	Inattentive Needs auditory cues Pace too fast	Try auditory cues/ different size group
Combined	Overstimulated Inattentive Pace too fast	Try different size group Vary questioning techniques
Demonstration	Needs auditory or visual cues Inattentive Pace too fast	Break instruction into smaller units

Frequency and Intensity of Teacher Contacts

Teacher gives directions General corrective feedback No specific individual Feedback	Environment too unstructured Needs individual attention	Try small group task Try teacher monitoring Try immediate feedback
Teacher monitors Performance Gives feedback	Task too difficult	Try easier task Review academic Assessment data
Teacher present No feedback	Needs reassurance Task too difficult	Try feedback Try easier task
Student-directed Independent No feedback	Cannot work independently Needs more structure	Try teacher monitoring Try feedback

Zigmond, N., Valleconsa, A., & Silverman, R. (1983). Assessment for instructional planning in special education. Englewood Cliffs, N.J: Prentice Hall

APPENDIX IV

EDUCATIONAL DECISIONS

A. What-to-Teach Decisions
- A.1 No instruction required
- A.2 Instruction required
  - A.2.1 Build accuracy
  - A.2.2 Build fluency
  - A.2.3 Build automaticity

B. How-to-Teach Decisions
- B.1 Curriculum decisions
  - B.1.1 Stay with current level and/or context
  - B.1.2 Change level
    - B.1.2.a Move to a more complex objective
    - B.1.2.b* Move to a simpler objective (only when no correct responses have occurred after several sessions).
    - B.1.2.c Adjust date for desired performance level (aim)
  - B.1.3 Change context
    - B.1.3.a Teach the objective in context
    - B.1.3.b* Teach the objective in isolation (only when tests of context knowledge are failed)

- B.2 Instructional decisions
  - B.2.1 Stay with current format, incentive, and delivery
  - B.2.2 Change format of instruction
    - B.2.2.a Use acquisition procedures
    - B.2.2.b Use fluency procedures
    - B.2.2.c Use generalization procedures
    - B.2.2.d Use maintenance procedures
  - B.2.3 Change incentives
    - B.2.3.a Change type or schedule of consequences
    - B.2.3.b Provide meaning
  - B.2.4 Change delivery of instruciton
    - B.2.4.a Change how information is given
    - B.2.4.b Change length of lesson
    - B.2.4.c Change group size or composition
    - B.2.4.d Change use of questions
    - B.2.4.e Change pace of lesson
    - B.2.4.f Change feedback given
    - B.2.4.g Change materials used
    - B.2.4.h Change other high impact variables

* Employ these decisions only when others have failed.

Howell, K. W. and Morehead, M.K. (1987). *Curriculum-based evaluation for special and remedial education*. Columbus: Merrill.

APPENDIX VII

How and what to teach decisions

Questions	Decisions (Numbers correspond to Appendix IV)		Indicating Data Description
Am I working on the correct objective?	B.1.1	Stay with current objective	Student is not at aim, (projected performance level) but makes some correct responses.
	B.1.2.a	Move to a more complex objective.	Student is at or above criterion of acceptable performance (CAP).
	B.1.2.b*	Move back to an easier objective.	Student makes no correct responses and has made no progress after several sessions.
	B.1.2.c	Expect faster learning (move aim date forward).	Student is below CAP but progress is greater than expected.
Is the context appropriate?	B.1.3.a	Teach the skill in the context of larger tasks. Explain the relevance of the task. Make the lesson "applied," (e.g., Do subtraction in a checkbook.)	Student has the necessary background information to derive meaning from the context or is resisting lessons and seems bored.
	B.1.3.b*	Teach the largest manageable unit of the objective in isolation. Use "rote" instruction. If student is accurate, employ fast-paced repetitive drill. Set daily performance aims and reinforce improvement. Put the skill in context as soon as possible.	Student is lacking the background necessary to use context or is confused by context.
Is my instruction appropriate?	B.2.1	Stay with current format, incentive, and delivery.	Student is progressing toward aim as expected.

Questions	Decisions (Numbers correspond to Appendix VI)		Indicating Data Description
Should the emphasis be on accuracy, fluency, generalization, or maintenance?	B.2.2.a	Accuracy instruction. Extensive explanation, modeling, demonstration, guided practice with correction and feedback. Little independent work.	Student is less than 83% accurate.
	B.2.2.b	Fluency instruction. Emphasize rate Give extensive drill and practice with frequent timings. Make sure accuracy is maintained.	Student is above 83% accuracy, but is slow.
	B.2.2.c	Generalization instruction (refer to Appendix IV). Reduce extrinsic reinforcement, teach self-monitoring. Expect student to adjust responses to fit changes in the situation.	Student is accurate or accurate and fluent.
	B.2.2.d	Maintenance instruction. Stop active instruction. Review periodically, monitor retention. Use skill in context of higher skills. Move to variable schedules of reinforcement.	Student is at or above aim.
Should the lesson be made more interesting?	B.2.3.a	Change type or schedule of reinforcement. Use preferred activities or student-selected rewards. Consider increasing or decreasing the frequency of reinforcement. Change when reinforcement is delivered to make it more or less predictable. Change type of reinforcer.	Was improving, but is getting worse or is beginning to resist lessons.
	B.2.3.b	Provide meaning. Explain relevance of task. Work skills in the context of higher-level skills. Begin and end lessons by explaining how the skill can be used. Allow student input into the kind of instruction received. Allow student to chart own progress. Make lessons applied.	

Questions	Decisions (Numbers correspond to Appendix VI)		Indicating Data Description
Should the delivery be modified?	B.2.4	Change setting or delivery. - Questioning - Feedback - Pace - Explanations - Length of lessons - Size of group - Lesson sequence - Type of practice	Below aim, but seems to have prerequisite skills. Is making inadequate progress in spite of appropriate objective, context, emphasis, and incentives.

* Employ these decisions only when others have failed.

Howell, K. W. and Morehead, M.K. (1987). *Curriculum-based evaluation for special and remedial education.* Columbus: Merrill.

PROGRAM OF STUDIES

WHAT HAPPENED TO THE PROGRAM OF STUDIES IN POLICY 2419?

The program of study section in each program area has been removed from Policy 2419: Regulations for the Education of Exceptional Students. Programming based upon a student's exceptionality or categorical label has shifted to individualized student planning based upon a consideration of the student's age, present level of educational functioning, current and projected needs, and long term goals. This shift parallels the change from determining a student's placement according to their exceptionality to providing students special education and related services in more integrated settings.

For some student populations (e.g. deaf-blind), there will be unique considerations and curriculum components when developing their Individualized Education Programs (IEP), however, a core of curricular components will remain relevant across the majority of exceptionalities.

WHAT CURRICULAR COMPONENTS SHOULD BE INCLUDED IN THE INDIVIDUALIZED EDUCATION PROGRAM (IEP)?

The majority of eligible exceptional students are capable of achieving the instructional goals and objectives of the general education curriculum. For some students, supplementary aids and services (any material/curricular resource or assistance beyond what is normally afforded nonexceptional students) may be required to support the student in achieving the goals and objectives of the regular class curriculum. Only when a student requires a curriculum that is significantly different than the regular education curriculum should it be included in the student's IEP.

* Behavior management
  * External and Internal Control
* Communication
  * Language
  * Articulation
  * Fluency
  * Voice disorders

- Sign language
- Alternative Augmentative Means of Communication (e.g. Braille, Communication Board)

* How to Use Assistive Technology
* Academics
  - Learning Strategies
  - Study Skills/Organization/Executive
* Career/Vocational Education
* Leisure Skills
* Daily Living, Self Help, and Survival Skills
* Emotional/Social Skills
* Orientation
* Mobility
* Effective Use of Remaining Vision
* Self Advocacy
  - Goal Setting
* Motor Skills
  - Fine Motor
  - Gross Motor
  - Sensory Motor

WHAT GOALS SHOULD BE INCLUDED IN THE INDIVIDUALIZED EDUCATION PROGRAM (IEP)?

When developing a student's Individualized Education Program (IEP), the IEP Committee must consider all evaluation information. After describing the impact of the student's exceptionality in the present levels of performance statements, the IEPC must develop annual goals that are pertinent to the individual student. The IEPC should develop goals 1) that are functional, age appropriate and necessary for participation in society and 2) that will foster independence and maximize functioning in integrated settings. Other factors to consider when developing annual goals include, but are not limited to:

1. Primary concerns stated on the initial referral;
2. The amount of time the student has left in school and the age of the student;
3. Skills needed to progress to the next level of performance;
4. Skills needed to succeed in the regular classroom;
5. Skills needed to achieve transition to the next setting; and
6. Behaviors/skills that will improve with modifications.[1]

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[1]*Developing Quality Individual Educational Programs,* West Virginia Department of Education, 1992.

Educating Students with Attention-Deficit/Hyperactivity Disorder

INTRODUCTION

For students with attention-deficit hyperactivity disorder (ADHD), the typical demands of school settings may present formidable obstacles to a successful school experience. For some students with ADHD, their behavior can be a powerful and disruptive influence on those around them. Their inability to conform with classroom expectations is in many instances not the result of a decision to behave in a specific way. Instead these negative behaviors or "inabilities" to meet classroom demands are frequently the basis for the diagnosis of ADHD.

The success of students with ADHD is dependent upon "a consistent opportunity to learn and overcome their disability" (Chesapeake Institute, 1993, p. 4). Educators have a crucial role in providing students with ADHD this "opportunity" by working with parents and members of the medical community to understand the impact of the student's ADHD and to become knowledgeable regarding the selection and implementation of behavioral and academic interventions.

The purpose of this paper is two-fold: 1) to provide basic information regarding the education of students with ADHD, and 2) to supply practical "how tos" pertaining to evaluation, monitoring performance, and classroom management. Increased understanding of the impact of ADHD and knowledge of classroom interventions will assist educators in providing this "opportunity."

DESCRIPTION:

Attention-deficit/hyperactivity disorder (ADHD) is a neurological, developmental disability frequently characterized by developmentally inappropriate levels of inattention, overactivity, and impulsivity. The characteristics of ADHD are present in childhood and, for many individuals, can persist into adulthood. Although the exact cause of ADHD is unknown, there is little evidence to indicate that social or environmental factors, diet, or lack of discipline at home cause (ADHD). Current research generally indicates that the disorder is genetically transmitted and results from a

chemical imbalance in the brain that impacts the regulation of behavior. Research is ongoing and hopefully will provide more specific answers (Fowler, 1994).

CHARACTERISTICS:

Students with ADHD are "managed by the moment". These students desire to learn and interact appropriately; however, they have significant difficulty attending, waiting and regulating their behavior to the demands of a situation. Even though most individuals display these characteristics to some degree, the behaviors are more severe in students with ADHD and occur in a wider range of settings. Unless students with ADHD are managed and taught appropriately, the disorder may result in academic and social failure (Chesapeake Institute, 1993).

Characteristics may include:

Academic: underachievement, failure, grade retention.

Behavior: poor attention to academic tasks, incomplete/misplaced assignments, disruptive and non-compliant behaviors that result in suspensions, expulsions, and/or altercations with the justice system.

Cognitive: attention problem (forgetful, careless, disorganized), hyperactive (excess movement, talking, fidgeting), impulsive (acting before thinking, difficulty waiting, frequently interrupting).

Social: unpopular, immature, lacking in social awareness and sensitivity.

Students with ADHD are **consistently inconsistent.** Behaviors vary from moment to moment, situation to situation, and day to day, but usually appear under these conditions:

1) when the task is relatively mentally difficult,
2) when the student must work for an extended time, and
3) when assignments must be completed with little direct supervision (Council for Exceptional Children, 1993).

See Appendix A for additional informational information on characteristics and examples of specific difficulties.

Problem behaviors related to ADHD usually appear at an early age and often persist throughout life. Various problems or characteristics associated with ADHD manifest themselves at different stages of development.

Infancy	Excessive crying & difficult to soothe
Preschool	Resistance to routines, require much stimulation, very high energy level

Primary school	Inattentiveness, carelessness and incomplete work, disruptive, restless, poor academic and/or social performance
Adolescent	Antisocial, at risk for conduct disorders, and/or academic failure ADHD often coexists with learning disabilities and behavior disorders (aggression, anxiety, noncompliance, depression).

LEGAL OBLIGATIONS:

Both federal and state laws outline the legal obligations of school districts. These laws include: 1) the Individuals with Disabilities Education Act (IDEA), 2) Policy 2419: Regulations for the Education of Exceptional Children, and 3) Section 504 of the Rehabilitation Act. According to these laws, school districts must:

- evaluate all students who are suspected of having a disability that may require supplementary aids and services (including classroom modifications), and/or special education and related services to benefit from education.
- provide a free and appropriate public education which may include supplementary aids and services and/or special education and related services to eligible students.
- provide the student's education in the regular classroom when appropriate (i.e., unless it is demonstrated that education in the regular environment with the use of supplementary aids and services cannot be achieved satisfactorily).

Students with ADHD **may** qualify for special education and related services under Policy 2419 **if** the student meets the eligibility criteria under specific exceptionality categories such as other health impaired, learning disabilities or behavior disorders. A student who does not meet the eligibility criteria under Policy 2419 may be eligible for supplementary aids and services and/or special education and related services under Section 504 **if** the student has a mental or physical impairment (ADHD) that substantially limits one or more of the student's major life activities (e.g. learning).

Students with a medical diagnosis of ADHD are not automatically eligible for services under either Section 504 or Policy 2419. Eligibility for services under Policy 2419 or Section 504 is determined by a multidisciplinary team of individuals who are knowledgeable about the student, evaluation data, and placement options.

IDENTIFICATION/EVALUATION:

As with all other exceptionalities, evaluation to determine eligibility for special services should be a multistep, multi-disciplinary procedure (Task Force on Children with ADHD, 1992). Beginning with the School Based Assistance Team (SBAT) Meeting, instructional/behavioral strategies and/or the effectiveness of these strategies should be considered or a referral for a multidisciplinary evaluation should be recommended.

There is no simple test that identifies a student as ADHD. Determining that ADHD is the best explanation for a student's difficulties and determining eligibility requires collecting different types of information from multiple sources and ruling out other diagnoses that have similar characteristics (e.g., depression, anxiety). The multidisciplinary evaluation should provide information that enables school personnel and the student's parents to:

1) Determine whether or not a student exhibits characteristics of ADHD* (collect information from parents and instructional personnel, previous teachers, school records, and medical history) (See Appendix B).

2) Determine the extent to which the student's educational performance is adversely affected (direct observation of classroom behavior, academic productivity, measures that reflect achievement/learning, self-esteem, social status and functioning).

3) Describe the child's strengths and weaknesses; and

4) Formulate specific recommendations which are linked to the student's characteristics (Executive Summaries of Research Syntheses and Promising Practices on the Education of Children with Attention Deficit Disorder, 1993). Refer to Appendix C for a framework of questions and procedures for the evaluation of students who are suspected of ADHD and may require special education and related services under the exceptionality of other health impaired.

INTERVENTIONS

There is no single intervention that will "fix" the symptoms of ADHD; instead, a combination of approaches is necessary to meet individual needs. A comprehensive management approach for students with ADHD should include:

1) knowledge and understanding of students with ADHD;

2) behavior management;

3) individualized education interventions; and

4) frequently medication when appropriate.

Sometimes, individual and/or family counseling is also necessary.

*The Diagnostic and Statistical Manual IV, published by the American Psychiatric Association, provides definitions, descriptions, and criteria of psychiatric, psychological, behavioral and developmental disorders of human behavior, including ADHD.

EFFECTIVE CLASSROOM MANAGEMENT

Without understanding the impact of a student's ADHD on his/her educational and social performance, educators frequently focus their efforts in making the student conform. Efforts to make the student conform through punishment will have a minimal impact on the student's ability to meet these classroom expectations.

> As the teacher becomes more intense in controlling the behavior, the child becomes more restless and noncompliant, so his behavior deteriorates further, leading to more intensive, controlling action on the part of the teacher. The vicious cycle seems to escalate. Thus, it appears that the student with ADHD is as much a victim of his own extremes of behavior as those around him (Goldstein & Goldstein, 1992, p. 9).

Knowledge and sensitivity regarding the disabling impact of ADHD and knowledge about both educational and behavioral interventions will enable the educators to minimize the negative effects of the student's ADHD and maximize the student's performance.

Research on nondrug interventions for students with ADHD does not offer strong evidence for any one treatment; there is **NO** cure. No educational intervention strategies to date, whether employed singly or in combination, have proved clinically sufficient and durable for the troubling and troublesome problems of these youngsters.... (Hinshaw & Erhardt, 1991, p.99).

Research is, however, providing support for certain promising classroom interventions (redirection, response cost, correspondence training, color added to repetitive tasks) (Fiore, Becker, & Nero, 1993).

Principles that should guide the development and implementation of a student's management plan are:

1) A positive emotional bond must exist between the student and the teacher(s) (Council for Exceptional Children, 1993);

2) The management plan must address the individual characteristics of the student;

3) Interventions that are least restrictive and intrusive should be considered first (See Appendixes D & E);

4) Student performance data should be collected to determine the effectiveness of educational and/or pharmacological interventions (See Appendix F); and

5) The goal of all interventions is to enable the student to manage their own learning and behavior successfully (Adams, 1994).

What educators think, do, and teach to students with ADHD will help determine whether this goal is attained (See Appendix F).

Behavioral Interventions: ***Proper*** implementation of behavioral interventions is based on counting and measuring behaviors and adjusting procedures on the basis of results. Interventions include:

* Maximizing simple positive reinforcement using verbal and nonverbal strategies
* Teaching desired behaviors
* Using verbal and nonverbal strategies to remind students of classroom rules and routines
* Applying brief reprimands
* Removing positive consequences
* Increasing immediacy of consequences and rewards
* Assisting students in setting short-term goals
* Noting signs of stress and providing encouragement and/or altering the learning environment to reduce stress
* Developing a behavioral contract with the student
* Teaching student how to self-monitor behavior
* Providing opportunities for movement especially during independent, written work

Academic Interventions: Proper implementation of academic interventions is based on identifying the desired result(s) and collecting student data to determine whether the result(s) have been attained.

* Teaching and assisting students with organizational skills (assignment notebooks, time management, desk/locker organization)
* Shortening work periods to coincide with span of attention
* Breaking longer assignments into parts, so student can see end to work
* Providing limited choices/opportunities for decision making
* Adapting to individual needs by:
  -permitting alternate ways of responding
  -alternating assignments in regards to difficulty level or length
  -providing additional time
  -color coding
  -assisting students in using assignment notebooks
  -increasing opportunities for active learning/responding
* Adapting to individual needs, if reading is weak, by providing additional reading time; using "previewing" strategies; selecting text with less on a page; shorten amount of required reading;
* If oral expression is weak: accepting all oral responses; substituting display or oral report; encouraging student to tell about new ideas or experiences; picking topics of student interest
* If written language is weak: accepting non-written forms for reports (i.e., displays, oral reports, projects); accepting use of typewritten, word processor, tape recorder; not assigning large quantity of written work; testing with multiple choice or fill-in questions

* If math is weak: allowing use of calculator; using graph paper to space numbers; providing additional math time; providing immediate correctness feedback and instruction via modeling of the correct computational procedure (Parker, 1995).

Any intervention that is added to the teacher's repertoire in working with students with ADHD will be valuable for other students as well.

Medication

Medications or stimulants (Ritalin and Cylert are the most common) appear to increase the concentrations of certain brain chemicals (neurotransmitters) which improves the functioning of specific underactive areas of the brain. Medication is a supportive treatment; it improves functioning temporarily. Medication can be compared to insulin for diabetes or glasses for nearsightedness since it improves an individual's ability to function temporarily but is not a cure.

Current research has shown that medication can be a highly effective treatment for ADHD when properly prescribed and monitored. Approximately 75-80% of children with ADHD show improvement of their symptoms with minimal side effects. Medication may make a child more available for instruction or enable him/her to pause long enough to consider choices before acting. Potential benefits include: improved selective and sustained attention, impulse,\ control, compliance and cooperation, activity level, work productivity, accuracy, and organization (Miller, 1994).

Concerns regarding the use of medication to treat ADHD include:

1) A lack of documentation regarding the impact of medication on learning;

2) The long-term effects of medication on the adjustment of students with ADHD has not been documented; and

3) Do the attributions of success to the pill offset the benefits? (Swanson, McBurnett, Wigal, Pfiffner, Lerner, Williams, Christian, Tamm, Willcutt, Crowley, Clevenger, Khouzam, Woo, Crinella, & Fisher, 1993) (Appendix G presents conclusions based on a literature synthesis on the use of stimulant medications).

The parent's decision to place a child on medication is a personal one and should only be made after a thorough evaluation and subsequent consideration by both the physician and the parents (Fowler, 1994). Legally, educators cannot make medical recommendations (e.g., suggest a student requires medication), however, providing information to the student's parents and/or physician regarding the effectiveness of the medication is essential.

For additional information, contact:

Children with Attention Deficit Disorders (C.H.A.D.D.)
499 N. W. 70th avenue
Suite 109
Plantation, Florida 33317
(305) 587-3700

Association for Children and Adults with Learning Disabilities
4156 Library Road
Pittsburgh, PA 15234
(412) 341-1515

Orton Dyslexia Society
8600 LaSalle Road
Chester Building, Suite 382
Baltimore, Maryland 21286-2044
(410) 296-0232

For questions regarding the education of students with ADHD, contact:

West Virginia Department of Education
Office of Special Education Programs and Assurances
1900 Kanawha Boulevard East
Building 6, Room B-304
Charleston, West Virginia 25305-0330
(304) 558-2696 (V/TDD)

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Miller, J. J. (1994). **Medication for Attention Deficit Disorder:** A Guide for Parents and Educators. Paper presented at the 6th Annual C.H.A.D.D. Conference in New York City.

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Journal of Learning Disabilities April 1991, Volume 24, Number 4 is entirely devoted to the topic of ADD.

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Appendix A: Characteristics and Examples (Colorado Department of Education, 1994)

Students with ADHD may exhibit the following difficulties in various combinations and degrees of severity:

MENTAL ENERGY Definition: Mental energy allows a person to attend to a task. Uncontrollable fluctuations in mental energy contribute to difficulties attending. For students with ADD, the energy flow is inefficient. It may be: ■ Too much, ■ Not enough, or ■ inconsistent from day to day and hour to hour.	Students with this difficulty may: ■ Yawn, stretch, move, fidget a lot ■ Sit in unusual positions, and/or lay all over their desk, ■ Have difficulty pacing themselves, ■ Have difficulty sustaining attention over time, ■ Get tired easily, ■ Appear to be "moody," ■ Engage in lots of drawing/doodling, ■ Engage in "mindless" repetition of a specific behavior, ■ Talk excessively, ■ Have difficulty playing alone for an extended length of time, and ■ Have trouble getting started or rush through things.
MODIFIABILITY Definition: Modifiability is the ability to learn from experience.	Students with this difficulty may: ■ Be unable to generalize feedback to new situations; what was learned in situation X won't be applied to situation Y. ■ Not understand their own responsibilities/ contributions the consequences of current events ■ Have difficulty following rules. ■ Repeatedly engage in the same inappropriate behavior.
PLANFULNESS Definition: Planfulness is the ability to plan for a specific goal and to use time efficiently. It is the opposite of impulsiveness.	Students who have this difficulty may: ■ Act before thinking, ■ Have difficulty working on long-term goals, ■ Tend to be disorganized, ■ Have difficulty following instructions, ■ Blurt out, interrupt, ■ Have difficulty waiting their turn, ■ Fail to finish what they have started, ■ Frequently lose things. ■ Contribute to difficulties with home-school communication because nothing ever gets home, and ■ Be easily overwhelmed and/or frustrated.

SELECTIVITY Definition: Selectivity is thought to be the ability to consistently determine and attend to critical features. It involves the ability to: ■ Discriminate/determine foreground and background items, ■ Attend to the important issues and ignore the unimportant, ■ Appropriately group and categorize information, and ■ Prioritize features along critical dimensions.	Students with this difficulty may: ■ Become distracted easily (by their environment, their own bodies, their own thoughts), ■ Become overwhelmed by choices, ■ Have difficulty "changing gears" between activities, ■ Be unable to generate acceptable alternatives. ■ Be unable to identify the main idea/theme, ■ Have difficulty attaching new concepts to old learning and difficulty with memorization of new information, ■ Associate concepts/ideas in unusual ways (get "off track easily"). ■ Want everything that another child has, ■ Have trouble figuring out if/when they've had enough, ■ Be learning all the time, but may not be learning the concept of the lesson, and ■ Have difficulty sequencing or organizing written or oral expression.
SELF-MONITORING Definition: Self-Monitoring is thought to be the intrinsic ability to know what you're doing it, the ability to monitor and regulate your emotional responses, the ability to "read" environmental cues, the ability to use objectivity and logic to purposefully control actions and reactions, and the ability to check for success.	Students with this difficulty may: ■ Be unaware of mistakes, ■ Tend to engage in dangerous activities without considering the consequences, ■ Not realize when they're inappropriate, and not correctly interpret the negative feedback that follows, ■ Demonstrate an inability to fine-tune their responses to situations, ■ Have difficulty interpreting the significance of a situation and therefore may overreact/under react, ■ Interrupt and/or intrude on other, ■ Not know if they've finished work or if the work is done well, ■ Have difficulty controlling mood swings, ■ Have limited awareness of or ownership for problems (the problem belongs to someone else), ■ Have difficulty adjusting behavior to different expectations within different situations, and ■ Become quickly frustrated with themselves, and ■ Become quickly frustrated with themselves and others.

Appendix B: DSM-IV Diagnostic Criteria for ADHD

Professionals who diagnose ADHD use the criteria established in the **Diagnostic and Statistical Manual** of Mental Disorders or the DSM-IV, that was released in May 1994. The DSM-IV has assigned specific symptoms or characteristics to three subtypes of the disorder:

Inattention:

Symptoms of inattention, as listed in the DSM-IV, are:

(a) often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities;
(b) often has difficulty sustaining attention in tasks or play activities;
(c) often does not seem to to listen when spoken to directly;
(d) often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions);
(e) often has difficulty organizing tasks and activities;
(f) often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework);
(g) often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools);
(h) is often easily distracted by extraneous stimuli;
(i) is often forgetful in daily activities.

Hyperactivity

Symptoms of hyperactivity, as listed in the DSM-IV, are:

(a) often fidgets with hands or feet or squirms in seat;
(b) often leaves seat in classroom or in other situations in which remaining seated is expected;
(c) often runs about or climbs excessively in situations in in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness);
(d) often has difficulty playing or engaging in leisure activities quietly;
(e) is often "on the go" or often acts as if "driven by a motor;"
(f) often talks excessively.

Impulsivity

Symptoms of impulsivity, as listed in the DSM-IV (p. 84), are:

(g) often blurts out answers before questions have been completed;
(h) often has difficulty awaiting turn;
(i) often interrupts or intrudes on other (e.g., butts into conversations or games)

(American Psychiatric Association, 1994 p. 83-84).

Other critical features that are considered in the diagnosis of ADHD include:

**Problems with inattention, and/or hyperactivity-impulsivity must be present and significant for six months, and inconsistent with expected development levels;

**Symptoms that cause the impairment are present before age 7;

**Some impairment is evident in two or more settings;

**Impairment is significant in social, academic, or occupational functioning; and

**The impairment is not due to other disorders.

Appendix C:

A Framework of Questions and Procedures for the Evaluation of Students Who are Suspected of Having Attention-Deficit Hyperactivity Disorder and May require Special Education and Related Services Under the Exceptionality of Other Health Impaired

School Based Assistance Team Meeting

Question: Does a problem exist?

a) Is the student making progress in academic/behavioral areas?

b) Is the student completing tasks, assignments?

c) Does the student rely on teacher or peer assistance more than necessary?

d) Is the student's behavior interfering with teaching activities and other students' learning?

e) Does the student interact appropriately with peers, other adults?

f) Do other peers/adults report difficulties interacting with the student?

g) Does the student display behaviors that will be unacceptable in the next grade placement? (Wolery & Sugai, 1988).

Question: Should an intervention plan (including a plan for evaluation the effectiveness of the interventions) be developed?

or

Question: Does the problem warrant immediate referral for a multidisciplinary evaluation?

** (documentation exists relevant to the severity and frequency of the problem and/or the ineffectiveness of interventions designed to address the problem)

Appendix C continued

Multidisciplinary Evaluation

ELIGIBILITY: Documentation of all of the following:

1) A medical or health condition as diagnosed and described including the effects on functioning, by a licensed physician.

Question: Does the student met the DSM-IV criteria for ADHD? (Refer to Appendix B)

Evaluation Procedures

a) Conduct parent interview to obtain information regarding the nature, onset, and duration of the student's attention problems, medical and developmental history, any family history of ADHD, recent changes, or environmental stressors.

b) Distribute standardized, norm referenced behavioral checklists (Achenback. Conners, ADDES) to parents and all teachers who are currently responsible for education of this student (e.g., all seventh grade teachers).

c) Examine student's current educational performance (work samples. tests) for skill deficits (including organizational skills, work quality, productivity).

d) Review student records noting grades, comments, test cores, disciplinary records, attendance, and prior schools attended.

e) Observe student across settings to determine the impact of instructional environmental variables on the student's attention (A-B-C/functional assessment).

f) Observe student with selected controls/peers to determine percentage of on-task and off task behavior.

g) Interview student to determine self-esteem/self-concept, social perception skills and emotional adjustment.

h) Administer measures of intelligence/cognitive abilities and achievement (standardized, curriculum-based).

2) Learning and/or behavior problems existing as a result of the medical/health condition

Refer to b, c, d

3) Educational performance which is adversely affected to the extent that specially designed instruction is required to meet the educational needs of the student.

Question: Must the regular education curriculum be modified to the extent that it cannot be provided in the regular classroom without supplementary aids and services?

a) Identify the settings demands of the classroom environment and determine examine the severity and number of skill deficits (academic, behavioral, organizational). (Refer to b. c. e. f).

b) Refer to documentation/evaluation of the effectiveness of interventions (SBAT minutes and ongoing monitoring student performance data related to the areas of concern).

c) Record observations and results of trial teaching sessions.

d) Consider other supplementary aids and services and their effectiveness in the regular education classroom.

Question: Does the student require that part of the curriculum be delivered though altered or different strategies or specialized materials to the extent that it cannot be provided in the regular education class even with supplementary aids and services?

a) Refer to documentation/evaluation of the effectiveness of interventions (SBAT minutes and ongoing monitoring of student performance data).

b) Consider other supplementary aids and services and their effectiveness in the regular classroom.

c) Record observations and results of trial teaching sessions.

Question: Does the student require a specialized curriculum that is significantly different than the regular education curriculum?

a) Identify the settings demands of the classroom environment (those skills and behaviors which enable students to learn content and be successful in regular classroom settings) and determine examine the severity and number of deficits (academic, behavioral, organizational).

b) Refer to documentation/evaluation of the effectiveness of interventions (SBAT minutes and ongoing monitoring student performance data related to the areas of concern).

Behavioral Strategies Listed by Intrusiveness

Key Concept: The extent to which a strategy interferes with the students' personal rights.

Type of Strategy	Examples
Environmental Modifications	➜ Assign peer buddy or group Change: *social dimension *physical arrangement *schedule of activities *amount/type materials, activities, and/or instructional methods *Teach alternative responses for the negative behavior ➜ Teach self-monitoring
Reinforcement Contingencies	➜ Reinforcement of: * other behaviors * incompatible behaviors * low rate of behaviors Contingency contracting Token economies
Mildly Intrusive Procedures (punishment)	➜ Extinction Response Cost
Intrusive punishment Procedures	➜ Timeout Overcorrection

Academic Interventions listed by Least Restrictiveness

Key concept: Parallels the regular classroom to the maximum extent possible

■Modify Teaching Procedures

* Modify Content Presentation
  -modify the instructional group
  -vary the setting
  -adapt rate of presentation
  -provide a variety of input modes
  -reduce distractions
  -assist students to obtain help

* Modify Directions
  -provide additional cues
  -limit length/number of directions
  -provide auditory/visual directions

■ Use Compensatory Strategies
  -extend time for task completion
  -provide visual cues (highlight, areas circle key words, coloring coding)
  -provide synonyms
  -orally administered tests
  -abridged/alternative reading materials
  -folding paper
  -provide outlines/study guides
  -reduce required items

■ Streamline the Instructional Sequence
  (identify only critical skills to be mastered)

Appendix Classroom Performance/Weekly Monitoring

Child's Name _____

Date _____ to _____
month/day month/day

Completed by _____ Date _____

		Please indicate E- excellent; G - good; F - fair; P - poor / Tally Occurrences					*(Weekly or periodic comments to be written out)		
Day		Completing Independent Work (productivity/accuracy)	Impulse Control	Activity Level (Over/Under)	Compliance/ Cooperation	Organization/ Prepared for Class	Peer/Relations	Completing and Turning in Homework	Follows Classroom Rules
Mon	a.m.								
	p.m.								
Tues.	a.m.								
	p.m.								
Wed.	a.m.								
	p.m.								
Thurs.	a.m.								
	p.m.								
Fri.	a.m.								
	p.m.								
		*Can specify either negative or desired behaviors							
								Please put any additional comments on the back of this sheet.	

Adapted from Copeland Medication Follow-up Questionnaire. Attention without tension by E. Copeland and Valerie Love, 1992.

Appendix G: Interventions to Help Students Manage Their Own Learning & Behaviors Successfully

Mental energy

Educators help students who have difficulties related to mental energy when they:

THINK

To get this student to change what he (she) does, I may have to change what I do.

This student is an inefficient processor, not a disobedient kid.

Sometimes it takes more energy to sit still than to move.

Don't ask this student to do something I wouldn't/couldn't do as an adult.

Don't personalize the student's anger and frustration.

Learn to ignore some things.

Expect behavior problems if assignments are too long, too hard, and there is too little direct supervision.

DO

Add novelty to repetitious tasks

Avoid taking away those activities that provide physical activity (recess, gym).

Use multisensory methods and responses.

Plan for movement with a purpose (assign a leader, paper-passer).

In the classroom, provide two seats for the students to move between.

Monitor the effects of medication on behavior and learning.

Place the student next to students who won't provoke.

Alternate tasks based on difficulty.

Change the pace frequently.

Shorten the task.

Allow the student to hold something or chew on something.

Build in a variety of physical activities for the whole class (stretch breaks, walking drills).

Help develop and coordinate a system for administering medication.

Communicate with the family; they often know what works best.

TEACH STUDENTS

About ADD; demystify its characteristics, discuss strategies that work.

Techniques to release stress and regulate energy (i.e., tapping fingers on a nerf ball or clay).

To substitute responses/ behaviors while waiting, (i.e., how to choose an easier part of a task while waiting for the teacher's help).

Selectivity

Educators help students who have difficulties related to selectivity when they:

THINK	DO	TEACH STUDENT
This student needs to know *what's important* or he'll be lost in the details.	Model strategies for making choices.	To use paraphrase strategies
This student needs structured choices; I need to narrow the alternatives available.	Provide advanced organizers/outlines that identify key concepts.	To remove nonessential materials from his/her work surface.
I need to identify and prioritize the most important attributes of the task, curriculum, or situation.	Repeat key concepts frequently.	How to determine the main idea when reading.
	Hold the student accountable for his/her knowledge of identified key concepts.	To use color-coding and/or underlining to highlight important information.
	Provide an orderly and predictable environment (i.e., develop and use classroom routines).	To use headphones to block extraneous noise.
	Consistently use the same location for presentation of new information.	To use strategies that assist selectivity (i.e., color-coding notebooks with textbook covers, labeling drawers, etc).
	Use visual/auditory cues to signal important information (i.e., color-coding, verbal attending cues).	Compare and contrast strategies.
	Reduce visual distraction on worksheets and materials in the environment.	Mapping strategies.
	Continually link new learning with previous learning.	To sort and order groups of things.
	Reduce auditory stimulation (i.e., ear plugs, headphones, study carrels.).	
	Go over important things more than once.	
	Don't overwhelm the student with too many questions too quickly.	

Planfulness

Educators help students who have difficulties related to Planfulness when they:

THINK	DO	TEACH STUDENT
For this student it's not a problem of knowing *what* to do, it's knowing *how* to do it.	Prepare the student for new situations/challenges in advance.	How to break large tasks down into smaller steps and how the smaller steps fit together to create the desired outcome/goal.
I can't assume that this student knows how to attack a situation or task.	Provide more supervision during unstructured and transition times.	Sequencing skills.
	Break projects into small steps.	Skills/strategies in organizing, planing, goal-setting.
	Create checklists that outline the steps toward completion of a goal.	Time-management skills.
	Give students numerous opportunities to practice/apply new skills.	
	Explicitly teach general-ization of Planfulness skills to new situations.	
	Provide clear written expectations.	
	Reinforce "preparedness" (i.e., one homework assignment excused for X days with appropriate materials).	
	Provide consistent, predictable, and certain consequences, privately.	
	Model decision-making strategies aloud.	
	Write a schedule and timelines for assignments on the board each day.	
	Provide storage trays, dividers, and notebooks.	
	Tell students what to expect, help them know what to do.	

Modifiability

Educators help students who have difficulty related to modifiability when they:

THINK	DO	TEACH STUDENT
This student doesn't learn from experience easily and so will require continuous management.	Provide students with specific behavioral/ performance guidelines so that they feel the security of structure.	Explicit information about rules and regulations which apply in academic and social contexts.
I need to act rather than react.	Develop a behavior management system that does not "up the ante" with progressive reinforcements (i.e., first time you give 5 points, second time 10 points).	Cause-effect relationships across academic and social contexts.
Pick my battles.	Frequently change rewards and make sure that the target behaviors are within the student's ability to achieve.	To generalize results ("This occurred in situation X; how is situation Y the same/different from...?", or "What happened the last time I did...?).
Any teacher's patience can wear thin. Be as kind to myself as I am to the kids.	Provide opportunities to role-play various choices, actions, and consequences.	
I'll have to use a very potent behavioral management system (subtleties are lost with this youngster), with novel, highly relevant, frequent, predictable, and sure consequences.	Tell the student what is expected, rather than what's not.	
Focus on one behavior at a time; shaping versus shape-up.	Give precise, clear directions, one step at a time.	
Structure may increase the sense of security. This student may need to feel the safety of structure.	Avoid arguments around the underlying reasons for behavior.	
If I phase out the reinforcement system, it may lead to regression.	Avoid penalizing the whole class for the behavior of one child.	
	Provide limited choices.	
	Display classroom rules.	

This information was developed by the Colorado Department of Education ADD Curriculum Group, acknowledging the work of Drs. Melvin Levine, Michael Goldstein and Sam Goldstein.

Appendix H: Literature Synthesis on Medication

What Should Be Expected

1. Temporary Management of Characteristics/symptoms.
   a. Overactivity (improved ability to regulate motor behavior)
   b. Inattention (increased concentration or effort on tasks)
   c. Impulsivity (improved self-regulation/thinking before acting)

2. Temporary Improvement of Associated Characteristics
   a. Deportment (increased compliance and effort)
   b. Aggression (decrease in physical and verbal hostility)
   c. Social interactions (decreased negative behaviors)
   d. Academic productivity (increased amount and accuracy of work)

What Should Not Be Expected

1. Paradoxical Response
   a. Responses of normal children are in same directions
   b. Responses of normal adults are in same directions
   c. Responses of affected adults and children are similar

2. Prediction of Response
   a. Not by neurological signs
   b. Not by physiological measures
   c. Not by biochemical markers

3. Absence of Side Effects
   a. Infrequent appearance or increase in tics
   b. Frequent problems with eating and sleeping
   c. Possible psychological effects on cognition and attribution

4. Large Effects on Skills or Higher Order Processes
   a. No significant improvement of reading skills
   b. No significant improvement of athletic or game skills
   c. No significant improvement of positive social skills
   d. Improvement on learning/achievement less than improvement in behavior/attention

5. Improvement in Long-Term Adjustment
   a. No improvement in academic achievement
   b. No reduction in antisocial behavior or arrest rate

(Swanson et. al., 1994)

NONAVERSIVE TECHNIQUES FOR BEHAVIOR MANAGEMENT

WHY SHOULD LOCAL EDUCATIONAL AGENCIES (LEAs) USE TECHNIQUES THAT ARE NONAVERSIVE FOR BEHAVIOR MANAGEMENT ?

Behavioral techniques/strategies should be designed to enable students to benefit from appropriate educational services and develop skills that will enable them to function as independently as possible in safe, integrated settings. Behavioral strategies can be characterized in one of two ways: 1) by the effect of a consequence on the target behavior, either increasing or decreasing its frequency, duration and/or intensity; or 2) by the type of stimulus employed.

Strategies that have been demonstrated to be effective include positive reinforcement, negative reinforcement, positive punishment, negative punishment and antecedent procedures (See Glossary). Procedures which utilize aversive stimuli have effects beyond the targeted student to those persons immediately involved as well as the general community.

Certain procedures and stimuli are unacceptable for use with West Virginia students regardless of their effect on targeted behavior. Aversives are any procedures that exhibit characteristics that are harmful to the student. Therefore, there should be a cessation of the use of any procedures or stimuli which exhibit any or all of the following characteristics:

- potential or actual signs of physical pain experienced by the student;
- potential or actual side effects such as: tissue damage, physical illness, other effects that may require the involvement of medical personnel or result in life endangerment;
- potential or actual severe physical or emotional stress or discomfort;
- potential or actual devaluation of a student because the procedure is inappropriate for the student's chronological age, out of proportion to the target behavior, and/or is normally unacceptable to the community and thus results in social degradation, decreased acceptance, and/or stigmatization.

Resources and expertise should be dedicated to the development, implementation, evaluation, dissemination, and advocacy of educational and management practices which are appropriate for use in integrated environments and are consistent with the commitment to a high quality of life for all West Virginia students.

WHAT TYPES OF BEHAVIOR REQUIRE INTERVENTION?

All behavior is: 1) relative to the individual, 2) functional and 3) adaptive to the situation. However, certain forms of behavior are problematic. These behaviors can be categorized into three types from least severe to most severe. Similar forms of behavior may be classified under different types depending on the impact on the individual, learning, and the environment.

Type 1: Behavior reflects normal variation including social misbehavior.

The behavior does not directly threaten or interfere with the health, safety or learning of self or others. The negative effects of the behavior primarily have an impact on the student's social environment. The decision to intervene is made by the individual teacher or team of teachers working directly with the student. Parent/Guardian participation is encouraged for this type of behavior. When the behavior becomes problematic and standard classroom management procedures are ineffective, data collection should begin.

Type 2: Behavior that does not threaten life or health, but does interfere with learning of self or others.

The behavior has an immediate or direct impact on self, others or the learning environment. This includes property destruction that is not a danger to self or others. Current baseline data and/or prior intervention results as well as a functional assessment is recommended to assist in the intervention decision. This decision is made by a team (e.g., School Based Assistance Team,) that has at least one member who is trained in behavioral assessment and intervention procedures. Parent/guardian participation is highly recommended in this process.

Type 3: Extreme behavior which requires immediate attention.

The behavior threatens the health, life or safety of self or others and requires immediate attention. Current baseline data and/or prior intervention results as well as a functional assessment are required to assist in the intervention decision. This decision is made by a team (e.g., SBAT, IEPC) that has at least one member who is trained in behavioral assessment and intervention procedures. Parent/Guardian participation is essential in this process. Consultation outside the student's immediate school team may be necessary. Individualized emergency procedures must be immediately developed and implemented by available team members until a written plan can be developed by the full team.

TYPE 1	TYPE 2	TYPE 3
Behavior reflects normal variation including social misbehavior.	Behavior that does not threaten life or health, but does interfere with learning of self or others.	Extreme behavior which requires immediate attention.

HOW CAN EDUCATORS MATCH THE INTERVENTIONS TO THE BEHAVIORS?

The primary objective of any behavioral intervention shall be that students acquire appropriate behaviors and skills. Two principals that should guide the decision making process when selecting behavior interventions include:

1. **The least intrusive intervention that is likely to be effective should be the initial consideration.**

2. **It is critical that behavioral interventions focus on skill acquisition and increasing the frequency of appropriate behaviors rather than merely behavior reduction or elimination.**

These decisions should be based on data from the current professional literature and the individual student's prior history.

The following continuum represents a hierarchy of least intrusive to most intrusive interventions. The order of interventions within a level does not suggest an order of preference. As a rule, the choice of an intervention should begin by considering the least intrusive intervention that is likely to be effective. Regardless of the level of intervention, a positive behavior program must be in place and implemented consistently.

General Procedural Safeguards

Movement from one intervention level to another should only occur after the team determines that supporting data clearly demonstrate the ineffectiveness of present techniques in use. The team will review information regarding: 1) a functional assessment, 2) consistent and persistent implementation of the program plan as written, 3) documentation showing unsuccessful use of alternative intervention procedures within the same level, and/or 4) efforts to teach appropriate skills were unsuccessful. Additional procedural safeguards are prescribed for each intervention level.

Intervention levels I, II, and III are behavioral strategies that can be typically utilized in the classroom settings. Each team that is responsible for developing a behavior management plan should include a staff member trained in functional assessment, behavioral strategies, and data collection.

LEVEL I

TYPE 1	TYPE 2	TYPE 3
Behavior reflects normal variation including social misbehavior.	Behavior that does not threaten life or health, but does interfere with learning of self or others.	Extreme behavior which requires immediate attention.

Level I procedures are characterized by a focus on reinforcement-based and skill building interventions. Level one procedures can and should be implemented in the regular classroom setting. Interventions are by verbal instruction and/or physical guidance and are physically unresisted by the student. Other interventions included are environmental and other antecedent manipulations which help prevent the occurrence of target behavior.

When a Level I intervention is utilized for a Type 1 behavior, data collection may not be necessary.

When a Level I intervention is utilized for a Type 2 or 3 behavior, data collection is required.

When the behavior becomes problematic and standard classroom management procedures are ineffective, the teacher implements a Level I intervention unless the behaviors are included in the IEP, which are team based decisions.

INTERVENTIONS: (Definitions and Examples of all interventions can be found in the Glossary.)

- Positive reinforcement
- Shaping
- Chaining
- Prompting
- Fading
- Graduated guidance
- Modeling
  a. Observational learning
  b. Participant modeling
- Group reinforcement response contingency
- Token economy
- Teaching functionally equivalent skills (giving choices)
- Environmental modification
- Transitional planning
- Negative reinforcement without aversive stimuli
- Redirection
- Proximity control
- Active listening
- Feedback
- Mediation
- Problem solving
- Decision making
- Peer support
- Contingency Contract
- Programmed Instruction
- Self-reinforcement
- Time Out from Reinforcement
- Instructional Match

LEVEL II

TYPE 1	TYPE 2	TYPE 3
Behavior reflects normal variation including social misbehavior.	Behavior that does not threaten life or health, but does interfere with learning of self or others.	Extreme behavior which requires immediate attention.

Level II interventions are characterized by the withdrawal of reinforcers contingent on the targeted behavior, use of unresisted physical guidance to redirect behavior or correct the environment, and/or social disapproval of the behavior. Interventions require written plans and focus on specific excessive behaviors that cannot be modified by standard classroom procedures. Interventions involving physical contact are physically unresisted by the student. Interventions involving physical contact are physically unresisted by the student. If resisted, the intervention involving physical contact is a Level III intervention.

Level I interventions were ineffective as evidenced by documentation.

Level II interventions require data collection.

Parent/Guardian participation/notification is highly recommended.

Review of Level II interventions should occur at least on a monthly basis; specific review dates should be established by the team according to the individual student, the severity of the behavior, parent/guardian request, and/or team member request.

Student should be included when appropriate.

The written plan should include a component to return to Level I intervention.

The written behavior plan should be relevant to the goals and objectives of the current IEP.

INTERVENTIONS (Definitions and Examples of all interventions can be found in the Glossary)

- Prompted relaxation
- Satiation
- Restitution
- Extinction of non-dangerous behavior
- Contingent observation
- Interruption and redirection of behaviors
- Socially disapproving statements regarding behavior, not the student
- Token economy and contingency contracting involving response cost
- Exclusionary Time Out

LEVEL III

TYPE 1	TYPE 2	TYPE 3
Behavior reflects normal variation including social misbehavior.	Behavior that does not threaten life or health, but does interfere with learning of self or others.	Extreme behavior which requires immediate attention.

Interventions are resisted by the student or involve the administration of consequences that are potentially physically restrictive. **The use of Level III interventions shall always be accompanied by programming for positive behavior to replace targeted behavior.**

The written plan includes input from a team member who has experience in positive behavior management.

The Individualized Educational Program Committee should review and provide input regarding the selection, continuation and /or cessation of all Level III interventions.

Parent/Guardian input is highly recommended.

Review by a school based team (e.g. SBAT) should be required at least weekly with parental input.

Documentation shall be provided that teachers implementing the program are trained in the intervention.

INTERVENTIONS: (Definitions and Examples of all interventions can be found in the Glossary)

- Positive practice
- Negative practice
- Overcorrection with or without physical guidance
- Manual visual screening without physical contact
- Contingent withdrawal of tasks
- Prompted relaxation
- Interruption and redirection of behaviors
- Seclusionary time-out
- Physical Restraint
- Chemical Intervention

EMERGENCY PROCEDURES

Emergency procedures refer to procedures necessary to control a student's behavior that threatens the safety of self or others or causes severe property damage when those behaviors reasonably could not have been anticipated. The emergency procedures should include a proactive, preventative component and be the least intrusive intervention possible to reasonably react to the emergency situation. Reasonable force may be used to protect the student and/or others from injury.

PROCEDURAL SAFEGUARDS:

A written incident report should be completed following each emergency procedure. Copies of the incident report should be forwarded to the appropriate school administrator and/or Superintendent. Written incident reports should address the following issues:

a. Description of the behavior;
b. Time of incident, date of incident;
c. Setting in which behavior occurred;
d. Responsible staff who observed the behavior;
e. Description of emergency procedure implemented; and
f. Signature of responsible staff and appropriate administrator.

Parent notification should be required following each emergency procedure by appropriate administrator.

An emergency procedure should be used with a student only twice in a thirty (30) day period. Following the second implementation of an emergency procedure, an IEP meeting should be convened.

The team should develop a written plan to address the behavior and initiate the request for a functional assessment.

If the emergency procedure involves suspension of special education students, refer to Policy 2419: Regulations for the Education of Exceptional Students.

INTERVENTIONS NEVER USED

Certain procedures can never be employed. These include extreme restriction of rights and/or procedures that can be physically abusive, psychologically abusive, sexually abusive, or neglectful. Any use, planned or otherwise, of the following types of interventions are to be considered not only unacceptable but also a violation of basic human rights, and shall be reported to the appropriate authorities as abuse for legal action against the implementor. This includes such actions as:

- Any intervention that results in tissue damage.
- Contact of genitals for reasons other than self care or medical procedures.
- Corporal punishment.
- Locked seclusionary time-out rooms.
- Electric shock (contingent electric stimulation).
- Denial of an entire meal, shelter, or bathroom facilities.
- Placement of students in unsupervised areas such as storage areas, closets, boxes, or similar areas, whether as a consequence for behavior or not.
- Restriction of free movement by any device utilizing tape, manacles, rope, chain, wire or similar materials.
- Visual screening with apparatus.
- Verbally abusive statements, resulting in mental anguish and loss of self esteem.
- Forced exercise (forced running, situps, pushups, etc.).

Interventions levels IV and V are available from the West Virginia Department of Education for agencies who are educating West Virginia students in settings other than school-based. Intervention levels IV and V are behavioral strategies restricted to use with type III behaviors. These interventions would not be implemented in a school setting because they require additional or specialized environmental supports. These supports include appropriate administration, staffing, materials and physical plant.

GLOSSARY

ACTIVE LISTENING - A form of communication in which the listener attempts to relate to the speaker by stating his understanding of what the speaker said so that the speaker can verify the accuracy of the communication. The listener does not give an evaluation, opinion, advice, or analysis of what the speaker said.

Ex. The teacher restates in her own words what a student has said and gives that student an opportunity to verify or correct the statement.

ANTECEDENT MANIPULATION - A procedure in which the social and/or physical conditions in the environment are arranged to promote or discourage a target behavior (See also Environmental Modification).

Ex. Students are seated in every other desk during a test to discourage cheating.

BEHAVIOR MODIFICATION -Systematic control of environmental events, especially consequences, to produce specific changes in observable responses; may include reinforcement, punishment, modeling, self-instruction, desensitization, guided practice, or any other technique employed to teach or eliminate a particular response. Positive reinforcement is the preferred technique to begin the process. Student is rewarded for the occurrence of the desired behavior while the undesirable behavior is ignored.

Ex. A student is off-task during study time. The teacher verbally praises him when he is on-task and does not mention the off-task behavior.

CHAINING - A procedure in which responses performed in a specific sequence are reinforced.

a. Forward Chaining - a procedure in which each step of a behavior is taught beginning with the initial step and then each consecutive step in the response sequence is gradually added.

Ex. Handwashing - student is reinforced for turning on the water, then for wetting hands, then for soaping hands, then for washing hands, then for rinsing hands, then for turning off the water, and finally for drying hands.

b. Backward Chaining - a procedure in which each step of a behavior is taught beginning with the final step and then each previous step in the response sequence is gradually added.

Ex. Feeding - student is reinforced for removing food from the spoon with his lips, then for bringing the spoon to his mouth, then for scooping food onto the spoon, then for picking up the spoon.

CHEMICAL INTERVENTIONS -Medications to control behavior can be given by school personnel only as prescribed by a physician as per exact time and dosage. No medication prescribed on an "**as needed**" basis shall be administered by school personnel.

When the student's parent/guardian independently obtains physician prescribed medication, a school-based team should be established to:

- Identify and monitor target behaviors;

- Monitor for side-effects of medication (positive and negative);

- Develop and implement other interventions appropriate to the target behavior; and

- Discuss concerns about the use of/need for medication and its effects with the parent/guardian through the IEP, as appropriate;

CONSULTANT - A qualified and trained professional who has demonstrated success with the use of nonaversive and aversive interventions with individuals who have severe behavior problems.

CONTINGENCY CONTRACTING - Placing contingencies for reinforcement (if..then.. statements) into a written document. This creates a permanent product that can be referred to and followed by both teacher and student.

Ex. A student swears in class an average of 15 times per day. A contract is written stating that if the swearing incidents number no more than 5 times per day, fifteen minutes of additional non-instructional computer time will be available for the student.

CONTINGENT OBSERVATION - A student who is doing something inappropriate is told to step away from the activity for a few minutes, sit in a chair nearby, and watch the appropriate behavior of other students. The teacher deliberately attends to other students who are appropriately behaving in ways the student would observe. The student rejoins the activity after 2 to 10 minutes of observation, and when the student performs the desired act, she/he is reinforced.

NOTE: The student is not removed to a separate area as in exclusionary or seclusionary time-out.

Ex. While children were seated at a table playing with blocks, Johnny grabbed some of the blocks. The teacher stated "Johnny, you should be playing with your own blocks as the others are doing, not grabbing Sue's. Sit in this chair and watch how the others are using their own blocks." The teacher then encouraged others for playing appropriately. After 2 minutes the teacher said, "Johnny, you've been watching nicely. Play with your own blocks now without bothering others." Johnny returned to the group and was reinforced for appropriate behavior.

CONTINGENT WITHDRAWAL OF TASK OR ATTENTION - Similar to contingent observation, but the teacher briefly withdraws the task or attention from the student such as by turning away from the student.

Ex. The teacher ignores Johnny when he talks without asking permission. The teacher withholds attention when this inappropriate behavior is exhibited by turning his/her back to Johnny while removing task materials.

CRISIS - Intervention during a crisis in a student's behavior with emphasis placed on the crisis situation. The Life Space Interviews is often used in crisis intervention in order to assist the student in cognitive self-awareness. Physical crises need interventions from a teacher or team specifically trained in management techniques.

Ex. Johnny has just been involved in a physical confrontation with another student. Johnny is agitated. The teacher initiates appropriate verbal interaction on an individual basis directly after the incident.

CUEING - Systematically providing a prompt to remind the student to perform a specific act (See also Prompting, Fading).

Ex. A student is physically and verbally directed to a study carrel where his reading book is located when study time is indicated.

DATA COLLECTION - This refers to measuring and recording observable aspects of a behavior. Data can be gathered on a behavior by measuring such aspects as frequency (number of times it occurs), intensity (how severe it is), and duration (how long each episode lasts). Recording such aspects of a behavior prior to intervention provides a baseline against which it is possible to assess the effects of the intervention, that is how the behavior changes in frequency, intensity or duration as a result of the intervention. It is important to take baseline data in order to document the need for and effectiveness of interventions.

DECISION MAKING - (See Problem Solving).

DIFFERENTIAL REINFORCEMENT - A procedure in which a target behavior is reduced by ignoring that behavior while reinforcing an alternative, incompatible, or other behavior.

a. Differential Reinforcement of Alternative Behavior (DRA) - A procedure in which a target behavior is reduced by ignoring that behavior while reinforcing a specified alternative behavior.

Ex. To reduce talking out, the teacher only calls on students who raise their hands.

b. Differential Reinforcement of Incompatible Behavior (DRI) - A procedure in which a target behavior is reduced by ignoring that behavior while reinforcing a specific behavior that is physically incompatible with the target behavior.

c. Differential Reinforcement of Other Behavior (DRO) - A procedure in which a target behavior is reduced by ignoring that behavior while reinforcing any appropriate behavior other than the target behavior.

Ex. Student has a history of spitting at classmates. The teacher reinforces any individual activity or peer interaction in which spitting does not also occur.

ENVIRONMENTAL MODIFICATIONS - The arrangement or manipulation of the physical environment in order to facilitate appropriate responses. (see also Antecedent Manipulation)

Ex. Arranging the students' desks in a semi-circle so that all students have an unobstructed view of a classroom demonstration.

Ex. When teaching a student to spontaneously use manual sign to request items, the teacher serves only a small amount of juice at snack time and leaves the pitcher in view in order to prompt the student to request juice.

Ex. Decrease the noise level or number of students in a room.

Ex. Enrich the environment by adding more leisure materials and stimulation.

EXCLUSIONARY TIME OUT - The student is removed (unresisted or resisted) from an activity or reinforcing situation into a situation with less reinforcing value to the student. The location must be within sight of an adult within a supervised classroom using typical classroom furniture. This removal should last only until the student is calm or only up to three consecutive ten minute sessions per use. There must be no physical barriers to prevent the student from leaving the area in which he or she has been placed. Data on the number of time(s) this procedure is used and the duration of each use must be kept.

Ex. A student in a reading class had his chair turned around for five minutes as a result of constantly throwing his book off his desk.

EXTINCTION OF NON- DANGEROUS BEHAVIOR - The non-reinforcement of a previously reinforced response. In all cases, when the inappropriate behavior is under extinction, another behavior which is appropriate must be reinforced. The behavior must not be of danger to the student or others. The specific reinforcers maintaining the excess behaviors must have been previously identified so that it is clear what is to be withheld.

Ex. If your attention has consistently followed a pupil's out-of-seat behavior, and you withhold attention each time the student is out-of-seat, such behavior will be weakened over time.

EXTINCTION WITH POTENTIALLY DANGEROUS BEHAVIORS - Extinction is a procedure whereby reinforcement is withheld contingent on the occurrence of an excess behavior. The reinforcers maintaining the excess behavior must have been previously identified so that it is clear what is to be withheld. When used with behaviors that are potentially dangerous to the student or others, caution must be employed to protect the individual and others to specifically train and reinforce alternative responses. A behavior likely to cause irrevocable harm is not a candidate for extinction. Even if there is a likelihood of minimizing the danger from the excess behavior, other procedures must be used with extinction, such as protective devices, teaching alternative skills and a high density of reinforcement for functionally-equivalent behaviors.

Ex. Johnny throws chairs whenever he is approached by his teacher to engage in an instructional task. The teacher decides to work with Johnny in a room with only two chairs, and with no other students present. In this way, the risk of harm from this dangerous behavior is minimized. The teacher then proceeds to teach the task to Johnny, being sure to provide frequent reinforcement for his compliance. The teacher also allows Johnny to take a short break from the task if he signs "STOP". The teacher ignores his chair throwing and attempts to continue the task.

FADING - The gradual removing or changing of a stimulus or contingency as the student masters a response.

Ex. When teaching behaviors, reinforce each time, then reduce reinforcement to every 2, 3, or 10 times.

FEEDBACK - A procedure in which the student is provided information following his demonstration of a behavior to guide the future occurrence of that behavior.

Ex. The teacher has a student rework an incorrect problem under her direct supervision, prompting when necessary.

FUNCTIONAL ASSESSMENT - Also know as Functional Analysis. The goals of a functional assessment are to determine prior to intervention three primary aspects of the identified excess behavior, including: (a) providing an operational definition of the behavior, (b) determining the primary times and settings when the behavior is most likely to occur and not occur (i.e., antecedent or setting events), and (c) determining the consequences which maintain the behavior, that is, what events consistently follow an occurrence of behavior. A behavior may thus be determined to have one or more of the following functions: sensory stimulation, escape/avoidance of certain situations (i.e., demands), or acquisition of certain events (i.e., tangibles, attention). A behavior may function to provide escape from certain demands, or may provide access to desirable activities, or may be stimulatory in nature. Communication behaviors (such as speaking, signing, communication boards)

are one class of behaviors which have these functions. Excess behaviors may also serve these functions, such as self-injury that result in staff removing task demands.

Three general strategies exist to determine the functions of excess behavior. These include: (a) interviewing the student and the persons who know the most about the student (may include completion of questionnaires), (b) directly observing the student over a variety of settings, situations and times, and (c) systematically manipulating settings and consequences to directly assess the effects on the target behavior. Optimally, once a functional-equivalent appropriate behaviors/strategies that can be taught to the student to replace the targeted excess behavior. Interventions involving consequences manipulations would also need to take into account the function of excess behavior. For example, self-injury that functions to escape demands would not be well treated by a time-out procedure which results in the withdrawal of the demands.

GRADUATED GUIDANCE - A procedure in which a behavior is taught using the level of prompt (verbal, gestural, modeling, physical) necessary for the student to demonstrate the behavior. Prompts are faded as the student becomes proficient.

Ex. The teacher verbally prompts the student to sip his coat then she uses hand-over-hand (physical) prompts to engage the zipper and a gesture (visual) to prompt the student to zip his coat. The teacher fades prompts as the student masters zipping his coat.

GROUP REINFORCEMENT RESPONSE CONTINGENCY - The entire class gets reinforced when one student demonstrates the target response.

Ex. The class gets five minutes of free time before lunch if a specific student completes morning assignments.

INSTRUCTIONAL MATCH - Based upon an accurate assessment of student needs, instruction of performance and teaching strategies, methods, and materials are matched to the student's interests and level of skill development.

INTERRUPTION AND REDIRECTION OF BEHAVIORS - A procedure in which the excess behavior is interrupted physically (blocking or briefly holding) or verbally (by a command such as "stop") and the student is redirected back to an appropriate behavior, such as an ongoing activity or task.

Ex. Johnny drops his pencil and turns around in his seat an begins to harass the student behind him. The teacher calmly turns Johnny around and place the pencil in his hand and his hand on the paper.

LIFE SPACE INTERVIEW - A cathartic technique used in crisis intervention in which the teacher talks through with the student the crisis or problem at the time it occurs.

Ex. Student and teacher listen to each other; try to determine alternative ways of handling situation.

MANUAL VISUAL SCREENING (OPEN HAND IN FRONT OF EYES) - A procedure which consists of briefly covering a student's eyes with the open hand of the staff. The hand should not come in contact with any portion of the student's face. The open hand is held up in front of the student's eyes for typically no longer that a one minute interval.

Ex. Susie repeatedly slaps her face. Staff places their open hand in front of Susie's eyes. After 15 seconds Susie stops slapping her face. Ten more seconds go by with no occurrence of face slapping. The staff's hand is removed. Intervals are determined based on the behavior and the individual.

MEAL DELAY - A procedure whereby all or a portion of a student's regularly scheduled meal is temporarily withheld for a period not to exceed one hour. This delay is contingent on an excess behavior.

Ex. Frank begins biting his hand at the lunch table. The teacher moves his tray out of Frank's reach for 2-5 minutes, while also interrupting the hand biting and attempting to calm him. When calm, Frank is allowed to continue his lunch.

MEDIATION - A procedure in which the student and teacher discuss a situation where the student identifies the facts, lists potential courses of action, the probable consequences of those actions, and then prioritize the response by appropriateness.

Ex. The teacher is discussing a playground incident with a student. The teacher has observed the student strike another student who was swinging. The student states that she wanted to swing and the other student would not share the swing so he hit that student. Alternative actions are listed such as playgrounds rules, taking turns, going somewhere else to play and then returning to the swings when unoccupied, lining up for swinging - changing students every five minutes with teacher as time keeper, hitting the swinging student, calling the swinging student names, etc. The probable consequences of these actions are then discussed. The student then prioritize future courses of action to take when a similar event occurs (Note: Consequences for current behavior are given after the mediation process has taken place).

MODELING - A procedure in which learning results through observation of a model's behavior.

Ex. The teacher demonstrates a tennis serve. The student then strikes the ball with his racket using the information he gained from observing the teacher.

NEGATIVE PRACTICE -The repetitive and massed execution of an undesirable response. Practicing a bad habit over and over again, on a required schedule, leads to extinction of that behavior because of inhibition and the absence of reinforcement. This may or may not contingently follow the excess behavior.

Ex. Joan had been leaving the study area, running out the door. The teacher had Joan run or walk twenty times over the same distance each time she ran.

NEGATIVE REINFORCEMENT WITHOUT AVERSIVE STIMULI - A procedure in which a response is strengthened (increased in frequency) or maintained by the absence or termination of an event (negative reinforcer) following the response.

Ex. Students who complete class assignment do not have homework assigned.

OVERCORRECTION WITH OR WITHOUT PHYSICAL GUIDANCE - A procedure which provides an active educational event after the occurrence of inappropriate behavior. The student is taught that there are consequences for the disruption to the environment caused by his/her inappropriate behavior by restoring the environment to its original condition (restitution) and then further improving the environment beyond the original condition (overcorrection).

Ex. Restitutional overcorrection - Frank has thrown a chair. He not only corrects the particular disturbance he created; i.e.,picking up the only chair he threw, but straightens the rest of the objects in the room.

PEER SUPPORT GROUP - (a psychoeducational technique) - The venting of problems and feelings and acquisition of enhanced communication problems solving skills in a peer centered setting. Examples include the "Pride and Tribes" curricula group, consensus in the classroom and the daily practice of communication sessions led by students under the direction of the classroom teacher. Emphasis is placed on acceptance of deviance and unconditional positive regard.

Ex. A student in the class has experienced a death in his family. Group discussion of his feelings and positive expressions of support from his classmates enable him to accept and work through his loss.

PEER TUTORING -A supervised program in which students assist other students academically and/or socially.

Ex. The teacher asks a student who has successfully completed an assignment to assist another student by prompting the step sequence necessary in completing the assignment.

Ex. A fellow student may be asked to walk with another student to that student's locker and on to the next class.

PHYSICAL OR MANUAL RESTRAINT - The use by staff (teacher, psychologist, etc.) of their hands and body to physically hold onto and prevent the free movement and normal functioning of a portion or portions of the student's body and from which the student cannot easily escape. Must use the minimum amount of force necessary to hold or restrain a student. The restraint should continue only as long as the student presents a danger to himself, others or property. Manual restraint should be used only after less intensive methods have been unsuccessfully attempted and administered by individuals trained to implement such restraint. Use of any mechanical devise or

physical apparatus to restrain the student is considered to be an apparatus restraint which should not be used in the public schools.

Ex. A student is hitting another student. He is requested to stop, but when he continues, he is moved away from the other student and his arms are held to his side for two minutes.

- Physical restraint should only be applied if the use of such restraint imposes the least possible restriction in order to provide safety of self or others from serious injury.

- Only the minimum amount of restraint/force necessary to control the individual's behavior is used during the implementation of the restraint program.

- Physical restraint shall be employed in accordance with the principles of correct body alignment so as not to interfere with the student's circulation and respiration. Physical restraint holds are utilized which cause the student the least possible physical discomfort and do not cause physical injury. Students should never be restrained face-down on a soft surface, or otherwise held or have bodily weight placed upon them in a manner that would interfere with their respiration or circulation. Physical restraint holds should be standardized and staff should be trained and certified in their use.

- While a physical restraint procedure is being utilized, staff must be assigned to continuously monitor the student to ensure the safety of the student. Respiration and circulation must be checked and documented every 15 minutes. Physical restraint must be released for at least a ten-minute period each hour, or when the student is calm.

POSITIVE PRACTICE - The repetitive demonstration of a desirable response. A student practices overly correct forms of relevant behavior in situations where a misbehavior commonly occurs. This may or may not contingently follow the excess behavior.

Ex. Sam forgets his pencil in his locker every day. Before school he practices getting his pencil from his locker 20 consecutive times.

POSITIVE REINFORCEMENT - A procedure in which a response is strengthened (increased in frequency) or maintained by the presentation of an event (positive reinforce) which follows the response.

Ex. Students who come to class prepared receive a bonus point.

PROBLEM SOLVING - A procedure in which the student is taught the necessary steps for obtaining the target response. Those steps include identifying that a problem exists, defining the problem, formulating solutions, selecting a solution, implementing the chosen solution, and evaluating the outcome.

Ex.

a. Identifying the problem - a student needs color markers to complete a map project and his markers have dried up. Upon going to the school store, he discovers that the markers cost $1.00 and he has only seventy-five cents.

b. Defining the problem - the student subtracts seventy-five cents from one dollar and finds out that he needs an additional twenty-five cents.

c. Formulating solutions - the student decides that he can either borrow markers from another student, or borrow twenty-five cents from another student, or take markers from an absent student's desk, or wait until tomorrow to purchase the markers after getting twenty-five cents from home.

d. Selecting a solution - the student decides to ask his friend for a loan.

e. Implementing the solution - the student asks his friend for a loan of twenty-five cents. She complies.

f. Evaluating the outcome - by getting a loan and being able to purchase color markers, the student is able to work on his map during class time.

PROGRAMMED INSTRUCTION - Used to increase desired academic performance through arranging material in logically increasing steps that allow the student to progress at his or her own rate with the teacher acting as a consultant. This technique can cause increase in self-esteem, insure a successful situation and increase motivation and may include programmed instruction texts and computer software.

Ex. Johnny is permitted and encouraged to self-determine the pace and rate of academic concept and rate of academic concept accumulation with the coaching, modeling and feedback of the teacher in the classroom.

PROMPTED RELAXATION - The agitated student is required to spend a fixed period of time in relaxation upon each occurrence of agitation. The student learns relaxation techniques such as deep breathing or tensing and relaxing certain muscle groups to lessen stress.

Ex. Johnny was told to sit at the study carrel with his head down and remain quiet for 10 minutes after becoming agitated in class. No interaction with the environment was permitted.

PROMPTING - A procedure in which an added cue is provided to teach the student to a correct response in a discrimination procedure. (See also Cueing and Fading).

a. Verbal prompt - The teacher says the beginning consonant sound when a student becomes stuck on a word when reading orally.

b. Visual prompt - The student is given a paper with dots or lines in the form of letters when learning to print the alphabet.

c. Physical prompt - The teacher physically guides the student in catching a ball.

PROXIMITY CONTROL - (interpositioning) - A procedure in which the teacher moves close to a student in order to maintain or reduce a behavior.

Ex. The teacher walks around the room while students work independently. Occasionally, the teacher stops and interacts with a student about the assignment. The presence of the teacher keeps students on task.

Ex. A teacher walks over near two students who are talking instead of working. The teacher's presence prompts the students to be quiet and resume working.

RESPONSE COST - A procedure in which a specified amount of available reinforcers in contingently withdrawn following a response. Response costs is often used with token economy programs. Response costs must be less than the total amount of reinforcers available. Response cost procedures are usually called. fines. The opportunity to regain the tokens may/may not be built into the program.

Ex. Johnny received 5 tokens for exhibiting appropriate behaviors in class. Each time Johnny acts inappropriately one token is taken away.

SATIATION - The procedure in which a large amount of a reinforcer is delivered following a behavior so that the effectiveness of the reinforcer is reduced. Food may not be used with this procedure.

Ex. Johnny kept stealing pencils from his classmates. The teacher gave Johnny pencils many times during the day. Johnny ceased stealing pencils.

SCHEDULES OF REINFORCEMENT -

a. Continuous Schedule of Reinforcement - The target response is reinforced every time it occur. Appropriate for teaching new behaviors.

Ex. Every time the student completed an assignment, the teacher gave him a star.

b. Intermittent Schedule of Reinforcement - The target response is reinforced some portion of the time thereby increasing the rate of that response portion. Schedule may be based upon a time period or rate of responding. (See also Fading).

Ex. Student is reinforced every five minutes if he is on task or the student is reinforced for every five problems completed correctly.

SECLUSIONARY TIME OUT ROOM - The student is removed (unresisted or resisted) from an activity or reinforcing situation and placed in a room specifically designed as a time-out room. A time-out may be used only when the student's behavior is known to respond to the time-out procedure. The procedure must show a rapid reduction of the targeted behavior and the amount of time the procedure is ;used is systematically reduced. Time-out in a time out room should last only until the student is calm and should not exceed thirty minutes per day.

The room can never be locked nor contain anything that poses a safety hazard (cleaning supplies, instructional materials). It must allow for the immediate entry of staff. The room should be well lighted, ventilated, heated and free of any safety hazards (all surfaces should be smooth, padded or carpeted). The room should provide physical arrangements for continuous observation of the student to ensure intervention of staff to prevent injury to the student. The student should be observed by staff continually and documentation of the students condition and response to the intervention should be kept.

Ex. Johnny is escorted to the time-out room each time he attempts to bite a classmate. He remains there for 5-10 minutes and it returned to class.

SELF-REINFORCEMENT - A procedure whereby a student reinforces his own behavior.

Ex. Johnny completed his assignment as directed and rewarded himself with a token in the form of a checkmark on his token sheet.

SHAPING - A procedure of systematic reinforcement of successive approximations of a target behavior to teach that new behavior.

Ex. Student is reinforced for staying in his seat for one minute, then three minutes gradually increasing the time up to ten minutes of in-seat behavior in order to receive reinforcer.

SOCIAL DISAPPROVAL - A procedure whereby a disapproving statement regarding the student's behavior is made by ;the teacher (not by other students). The statement should not degrade or abuse the student, but only comment on the behavior and may provide an acceptable alternative.

Ex. Johnny is misbehaving. Teacher says, "I do not like the way you are interrupting Mary, please raise your hand and wait your turn if you want to say something". Teacher does not indicate a dislike for Johnny and her tone is nonjudgmental.

SUSPENSION - Suspension, as an intervention for targeted behavior, appears to meet guidelines for a Level II intervention. Suspension from a definition standpoint seems to indicate the targeted behavior is not being modified with standard classroom procedures.

Note: Suspension of special education students must follow procedure of rights as granted by Policy 2419: Regulations for the Education of Exceptional Students.

TEACHING FUNCTIONALLY EQUIVALENT SKILLS (giving choices) - A procedure in which students are allowed to select a task from a list of activities that require the same target response. In treatment of excess behaviors, student is taught a skill which has been determined to have the same function as the excess behavior.

Ex. To increase sorting skills, a student may elect to fold and sort laundry from the dryer or remove utensils from the dishwasher and store them in a divided utensil tray or put away new classroom supplies by replenishing items in the teacher's desk tray (rubber bands, paper clips, tacks, safety pins).

Ex. A student hits his head to escape from tasks. He is taught to sign "stop" in order to take a short break from a task.

TIME OUT FROM REINFORCEMENT - The reinforcement (attention, materials) is removed from the student or the student is asked to observe the appropriate behavior of the other students which is to be modeled and reinforced by the teacher. The removal of the reinforcement should last no longer than ten minutes per use.

Ex. Johnny is cutting his art paper incorrectly. The teacher removes his scissors and paper and requests that Johnny observe the other students before rejoining the activity.

TOKEN ECONOMY - A procedure in which the student is reinforced immediately with tokens (tickets, chips, points, stars, coins) for target behaviors. These tokens may be exchanged at a later date for a reinforcer (food, privileges, activities, etc.)

Ex. The student receives a poker chip every time he completes an assignment within a specified time period. At the end of the week, the student is able to "cash" in his chips at the school store.

VERBAL REPRIMAND - Any verbal response used to modify behavior.

Ex. Johnny was not attending to his math assignment. The teacher said, "Johnny, you need to stop being inattentive and get busy".

A Nonaversive Task Force was established to 1) research and procure materials regarding issues related to aversive/nonaversive techniques; 2) develop a report and/or policy recommendations governing aversive/nonaversive techniques used in West Virginia Schools; and 3) present a report and/or policy recommendations to the West Virginia State Board of Education. The statewide task force members included: teachers, administrators, parents, advocates, representatives from higher education institutions and other organizations and agencies. Specific members involved in the development of the report included:

Carmelita Peters	Teacher	Mercer County
Dennis Miller	Principal	Cabell County
Barbara Becker	Executive Director	Autism Training Ctr
Anne Gentry	Parent	Kanawha County
Frank Kirkland	Coordinator	Developmentally Disabled Planning Council
Janice Parker	Advocate	West Virginia Advocates
Nancy Vickers	Coordinator	Fayette County
Janet Memal	Coordinator	Wood County
Patricia Williams	Coordinator/Teacher	Hancock County
Judy Donaldson	Teacher	Marion County
Rick Sisley	Advocate	Harrison County
Joseph Scotti	Instructor	West Virginia University
Susan Vance	School Psychologist	Mineral County

In 1993 Report of the West Virginia Task Force on Nonaversive Techniques for Behavior Management was presented to the West Virginia Board of Education. The State Board instructed the West Virginia Department of Education to incorporate 1) a policy statement in West Virginia Policy 2419 and 2) the procedural sections of the Report into the document *"Instructing for Success: Maximizing Learning Opportunities for All Students"*.

TRANSITION

WHAT IS TRANSITION AND WHY SHOULD SCHOOL PERSONNEL BE CONCERNED ABOUT IT?

Transition is the process of moving a student from one program placement to another. Changes in placement often cause anxiety and stress in children, families, and program personnel. In order to alleviate the problems associated with program changes, collaborative, cooperative program planning must take place. In an effort to encourage interagency collaboration in program planning, IDEA now requires that transition issues be addressed. The requirements of IDEA target students who are moving from early intervention programs into preschool and kindergarten in addition to the movement of adolescents from school programs into the world of work. However, it must be recognized that transition occurs at all levels of a student's educational career. Some areas of transition that should have established guidelines include:

1) more restrictive to less restrictive settings;
2) special education to regular education;
3) regular education to special education;
4) grade to grade;
5) from a lower school level to a higher school level;
6) residential school to public school;
7) correctional institutions into public schools.

WHAT ARE THE COMMON ELEMENTS OF TRANSITION?

Although there are differences in strategies used to develop transition plans for early childhood and those for older students, there are many premises that are common to all. Interagency collaboration is the keystone of an effective transition process. It is important that the personnel of all agencies concerned with the education of children and adolescents share the same vision for services. To provide a seamless system of services for students, the following recommendations are made (Stephens, 1993):

1. Establish interagency linkages with those other agencies with which families are most commonly involved in transition so that a comprehensive and coordinated

system can be in place.

2. Establish an ongoing interagency committee for transition procedure development, implementation, monitoring and evaluation. (This committee should also include parents.)
3. Negotiate interagency procedures between/among the sending and receiving agencies. Outline responsibilities of each agency. (This includes the identification of persons responsible for overseeing procedures.)
4. Establish administrative procedures to address the transition process (eg. transference of records, sharing of assessment responsibilities, timelines).
5. Confirm negotiated interagency committee operational and transition procedures in writing (eg. develop interagency agreements).
6. Implement, monitor, and evaluate transition procedures (p. 12-20).

HOW SHOULD STAFF BE PREPARED FOR TRANSITION OF STUDENTS?

The are many benefits to personnel who participate in transition planning for children and youth. One of the primary benefits to staff is the opportunity to get to know individual student needs and develop the skills to meet those needs. The sharing of resources and professional expertise among agencies benefits all personnel involved (U.S. Department of Health and Human Resources, 1994).

According to Stephens (1993), the following are key considerations for staff development.

1. Clarify roles and responsibilities of administrative, direct service and support staff in sending, receiving and related agencies.
2. Determine information and skills needed by staff to carry out these roles and responsibilities.
3. Develop, implement, monitor, and evaluate support structures for staff to acquire and use information and skills needed to carry out their roles (p.22-23).

It is recommended that whenever possible, joint interagency training be held to discuss roles and responsibilities and to develop the skills needed to implement transitions effectively.

HOW SHOULD FAMILIES BE INVOLVED IN THE TRANSITION PROCESS?

Family involvement is critical in all aspects of a student's educational career, including transition. In order to involve families in transition planning, they need to be given: a) training regarding the rights granted to them through federal and state regulations, b) information about local procedures for transition, and c) support for the stress caused by the transition (Stephens, 1993). It is also important that families have an active voice in the planning and implementation of transition procedures both at the agency level and as the procedures pertain to their individual children.

Parents who are involved in transition planning for their children gain confidence in their own ability to communicate with agency staff and gain a sense of involvement in their child's education. In addition, parents will also develop confidence in their children's ability to be successful in the new setting (U.S. DHHS, 1994).

HOW SHOULD THE STUDENT BE PREPARED FOR TRANSITION?

In order to limit the stress and anxiety felt by a student who is transitioning into a new setting, it is important to prepare the student for the changes to come. Stephens (1993) gives the following guidelines for student preparation:

1) Assess characteristics of future environment(s) to determine factors that facilitate placement of the student in the least restrictive setting.
2) Determine student strengths and needs related to characteristics of the next placement in the least restrictive environment.
3) Design and implement developmentally appropriate and/or functionally relevant strategies in the current placement to assist the student acquiring skills that will facilitate future placement.
4) Make recommendations in transition planning for instructional strategies, curricula, and environmental adaptations (as needed) in the next setting that will facilitate placement of the student in the least restrictive environment.
5) Arrange pre-placement activities to prepare the student and the setting for the student's placement.
6) Establish linkages between current and receiving staff which will support the student's adjustment in the new placement.
7) Provide support to receiving staff (as needed) in implementing Individualized Family Service Plan (IFSP) or Individualized Education Program (IEP) recommendations.
8) Design and implement an efficient structure to evaluate effectiveness of the transition process in preparing the student for the next placement in the least restrictive environment(p. 27-28).

A student who has been prepared well for the change to a new setting will experience enhanced self-confidence and be open to new experiences. In addition, an appropriate transition program will foster trust among children, teachers, and parents (U.S. DHHS, 1994).

WHAT ARE THE TRANSITION PROCEDURES REQUIRED BY FEDERAL LEGISLATION?

Adolescent Transition

As stated earlier, IDEA now requires that transition planning be included in the IEPs of adolescents moving from school programs into vocational training programs. A service coordinator is required to facilitate the design and implementation of the transition plan. The following are recommendations for transition planning for adolescents:

1. Although transition planning is required starting at age 16 years for all special education students, it is recommended that transition planning for students going into rehabilitation programs begin at age 14 years.
2. Students should participate in the IEP meeting.
3. If possible, a rehabilitation counselor should be housed at the school.
4. Vocational training should be designed to promote transference of previously learned skills to the job site, not focus on acquiring new skills.
5. Transition planning should be updated annually.
6. For adolescents entering into a rehabilitation system, an individualized work rehabilitation plan (IWRK) should be developed during the student's senior year.

To facilitate adolescent transitions in West Virginia, an interagency agreement between the Department of Rehabilitation Services and the Department of Education has been developed. In addition, a resource document entitled "Bridges: Guide to Improve Vocational Programs for Special Education" is available through the Office of Special Education Programs and Assurances.

Early Childhood Transition

The transitions of young children (0-5 years) with disabilities are governed by federal regulations from two legislative acts, the Individual With Disabilities Education Act (IDEA, Parts B & H) and the Head Start Program Standards. Part H of IDEA stipulates in the regulations that:

1. parents be included in transition planning.
2. a "face to face" meeting be held with Part H personnel, school personnel, and parents at least 90 days before the student's third birthday.
3. a transition plan be part of the Individualized Family Service Plan.

Part B of IDEA stipulates that for children transitioning from a Part H program to a Part B program, the IEP must be written by the student's third birthday. Head Start regulations requires each grantee to develop a Disabilities Service Plan which stipulates transition procedures from a Part H program into Head Start and from Head Start into the next placement. Head Start regulations also require parental participation in the transition process, including informing them of their rights under IDEA. Because of the intertwining of the regulations under IDEA and Head Start, personnel from early intervention programs, LEAs, and Head Start must work together to develop policies and procedures which facilitate smooth transitions and comply with federal regulations. Interagency agreements at the state and local levels are necessary to clarify the responsibilities of the various agencies for the provision of services to young children. Currently, West Virginia has a state-level interagency agreement between the Department of Health and Human Resources and the Department of Education regarding services for the 0-5 population. An interagency agreement between the WVDE and the Head Start Association is pending.

WHAT IS THE WEST VIRGINIA EARLY CHILDHOOD TRANSITION INITIATIVE?

The West Virginia Early Childhood Transition Initiative (Operation TADPOLE) is an interagency endeavor to develop a "seamless system of services for children 0-5 years". The

Steering Committee for this initiative is comprised of state and local representatives of the Department of Education, Department of Health and Human Resources (Part H, day care, Chapter 1), Parent/Educator Resource Centers, Head Start and, also, parents. Through its effort to develop guidelines and training for the development of local community collaboration teams, the steering committee has compiled basic principles of quality programming which affect transitions for young children. Adapting a resource document entitled Continuity in Early Childhood Programs developed by the Regional Educational Laboratories Early Childhood Collaboration Network, the committee has developed a self-assessment guidebook and training program for localities to rate their current status of quality indicators. The basic principles for quality programs outlined in the guidebook include:

- interagency collaboration;
- family education, support and empowerment;
- cultural sensitivity;
- confidentiality;
- effective early childhood practices;
- joint training; and
- program evaluation.

The guidebook also includes information regarding federal regulations and state policies regarding early childhood transitions. Recommended practices for complying with the regulations on childfind, referral, assessment, IFSP/IEP development and placement are presented.

The following resources on early childhood transition are recommended.

Stephens, P. & Rous, B. (1992). Project steps: Facilitation packet for the development of a system for the transition of young children and families. Lexington, KY: Student Development Centers of the Bluegrass, Inc. Contact: Carol Williams, WVDE, OSEPA.

U.S. Department of Health and Human Services (1994). Easing the transition from preschool to kindergarten. (Brochure) Contact: Carol Williams, WVDE, OSEPA.

Regional Educational Laboratories Early Childhood Collaboration Network (work in progress). Continuity in Early Childhood: Elements and Indicators of Home, School, and Community Linkages. Contact: Carol Williams, WVDE, OSEPA.

OPERATION TADPOLE Participant's Manual. Available through county community collaboration teams. Contact: LEA Special Education Director.

Bibliography

Early childhood transitions for children with disabilities and their families. Prepared by: Peggy Stephens, Mid-South Regional Resource Center, Interdisciplinary Human Development Institute, 114 Mineral Industries Building, University of Kentucky, Lexington, KY 40506-0051.

U.S. Department of Health and Human Services (1994). Easing the transition from preschool to kindergarten.

ASSISTIVE TECHNOLOGY

The use of technology has become an integral part in the lives of children today. Preschoolers operate remote control devices at home and students routinely access complex computer networks at school. Assistive technology provides children with disabilities the opportunity to participate more fully in all aspects of life at home, school and community. The Individuals with Disabilities Education Act (IDEA) includes provisions addressing assistive technology for students with disabilities in the public school system.

WHAT IS ASSISTIVE TECHNOLOGY?

Assistive technology is an enabling tool that provides access to learning and is most effective when applied in combination with traditional teaching techniques and strategies to achieve the best learning environment for children with disabilities. Alone or in combination with other techniques and strategies, assistive technology can play a critical role in meeting the educational needs of children with disabilities. Assistive technology can facilitate participation by students with disabilities in the educational curriculum and assist in the acquisition of the social skills needed for a productive and positive education. (Blackstone, 1992)

Assistive technology devices can be simple or complex. They can include Velcro, adapted clothing and toys, computers, seating systems, powered mobility, special switches, augmentative communication devices and thousands of other commercially available or adapted items. These technology solutions improve a child's ability to learn, compete, work, and interact with family and friends. (Enders, 1990)

Computers are used daily to provide a multitude of educational opportunities in the classroom and can be adapted for use by all students. Single switches, alternate keyboards, and keyguards are a few of the modifications a student may use to input information. Computer output may include voice output as well as visual display. Special software can make the computer a very effective learning tool for students with learning disabilities or cognitive deficits. A desktop computer equipped with a standard word processing program can be used as an assistive device by learning disabled students to write, check grammar and spelling. A calculator may be an accommodation

used by a student with a disability who is unable to remember math facts.

The following list represents examples of assistive technology devices according to areas of need. A multitude of devices are available to consumers, and technologies are continually being developed and refined.

(1) **COMMUNICATION** - Devices that assist children in communication when speaking is difficult or impossible. Devices typically are classified as either high-tech (i.e., electronic, battery-operated) or low-tech (i.e. non-electronic, which include communication boards, wallets, eye gaze vests, etc.). Many devices are available with printers, speech synthesizers, and communication software.

Examples of commercially available high tech devices:

Introtalker
Digivox
Canon Communicator
Wolf
Dynavox
Liberator

(2) **LISTENING AND HEARING/VISION** - Technologies that optimize the environment and improve a child's opportunities to learn from his or her environment.

Examples of Assistive Listening/Hearing/Vision Devices:

Personal FM Units
Sound-Field FM Devices
Low-Vision Devices
Hearing Aids
3-D Loop Systems

(3) **POSITIONING ACCESS, AND MOBILITY** - Technology that assists in the positioning of children with disabilities so they can participate in the activities of life, activate technology, and assist in mobility.

Examples of positioning technology:

Standing Frames
Walkers
Crawling Assists
Sitting Equipment
Floor Positioners

Examples of input devices:

Keyboards
Pointers
Voice-Activated Switches
Eye-Motion Switches
Touch Switches
Micro Switches

Examples of Mobility Devices: Two broad categories of mobility devices: (a) those that are propelled by hand; and (b) those that are battery-operated.

Attendant - Propelled Manual - a wheeled device that is propelled by someone other than the child.

Self-Propelled Manual - a mobility device that can be propelled by the child's hands, feet, or a combination of the two.

Battery-Operated - A mobility device that runs on batteries and is operated by one or more switches.

(4) **LIVING AIDS** - Technology that assists children with disabilities in basic life skills.

Examples of Living Aids:

Environmental Control Systems
Adaptive Spoons, etc.
Modified Clothing

(5) **EDUCATION** - Technology that assists children with disabilities in pre-academic and academic tasks including adaptations to computers.

Examples of components/alternate input devices:

Echo Speech Synthesizer
Joystick
Touch Window
Power Pad
Muppet Learning Keys
Intellikeys
Voice Recognition Devices
Headmaster

WHAT ARE THE REGULATIONS IN THE INDIVIDUALS WITH DISABILITIES ACT (IDEA) WITH REGARD TO ASSISTIVE TECHNOLOGY?

IDEA Regulations

1. The term "assistive technology device" means any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities. (34 Code of Federal Regulations § 300.5)

2. The term "assistive technology service" means any service that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology device. Such term includes...

(a) the evaluation of the needs of an individual with a disability, including functional evaluation of the individual in the individual's customary environment;

(b) purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by individuals with disabilities;

(c) selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing of assistive technology devices;

(d) coordinating and using other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programs;

(e) training or technical assistance for an individual with disabilities, or, where appropriate, the family of an individual with disabilities; and

(f) training or technical assistance for professionals (including individuals providing education and rehabilitation services), employers, or other individuals who provide services to, employ, or are otherwise substantially involved in the major life functions of individuals with disabilities. (34 Code of Federal. Regulations § 300.6)

3. Each public agency shall ensure that assistive technology devices or assistive technology services or both, as those terms are defined in § 300.5 - § 300.6, are made available to any child with a disability if required as part of the child's:

(a) special education under § 300.17;
(b) related services under § 300.16; or
(c) supplementary aids and services under § 300.550(b)(2).
(See 34 Code of Federal Regulations § 300.308.)

HOW HAVE THE REGULATIONS BEEN INTERPRETED?

The following policy letters have been issued from federal offices regarding the provision of assistive technology in the schools:

- If the parents provide an assistive technology device for the purpose of implementing an Individualized Education Program (IEP), the school district is responsible for maintaining the device at no cost to the parent when the device is part of the IEP (OSEP Policy Letter, 21 IDELR 1057 (1994).

- If an IEP Team determines that a child with a disability needs access to an assistive technology device at home as a matter of FAPE, then the school district must provide the device for home use in order to implement the child's IEP (OSEP Policy Letter, 18 IDELR 627 (1991).

- Schools my access alternative funding sources such as Medicaid, Maternal and Child Health and private insurance in order to defray the costs of providing assistive technology devices and services. However, the use of such sources of funding may not result in reduction of the medical or other assistance available (OSERS Policy Letter, 19 IDELR 278 (1991).

- The use of an FM auditory training system could be designated as special education or as a related service by an IEP team under the provision of assistive technology. A parent who believes that necessary assistive technology devices and/or services are not being provided may file a request for a due process hearing and/or an administrative complaint with the SEA. It may also raise a possible Section 504 violation which could be addressed by the Office for Civil Rights (OCR) (OSEP Policy Letter, 18 IDELR 1037 (1992).

- The use of a calculator could under some circumstances be "assistive technology" under Part B of the IDEA to the extent that assistive technology constitutes special education or a related service, the IEP must include a specific statement describing the nature and amount of such service. (OSEP Policy Letter, 18 IDELR 1039 (1992).

WHAT ARE THE IMPLICATIONS FOR LOCAL EDUCATION AGENCIES?

The Individuals with Disabilities Education Act (IDEA) ensures that students with disabilities are provided assistive technology devices and services. However, the legal definitions of assistive technology are broad enough to include low to high tech devices and may not exclude medically necessary devices and services. The regulations do not provide any direction regarding how to determine if assistive technology devices/services are required for the provision of a free appropriate public education (FAPE). Defining the scope of the terms to determine educational responsibility will be a challenge for educators.

IMPLICATIONS FOR LOCAL EDUCATION AGENCIES

- Assistive technology must be considered when a student is assessed to determine eligibility for special education.

- The need for assistive technology devices and services must be discussed in IEP meetings carefully documenting the options considered and the reasons for refusing or recommending each device or service.

- Determinations must be made on a case-by-case basis, taking into consideration the unique needs of each individual child, (OSEP 1991).

- If the provision of assistive technology is required, the student's IEP must include a specific statement of such services including the nature and amount of such services, (OSEP 1991).

- If the IEP team determines that the device is required for home use in order to make FAPE available, the device must be able to go home with the child, (OSEP 1991).

- State and local education agencies may access alternative funding sources, both public and private, to defray the costs of providing assistive technology to children with disabilities. However, the use of alternative sources may not result in a reduction of medical or other assistance available to children with disabilities or an altercation of their eligibility under programs such as Medicaid. The use of private insurance proceeds to provide assistive technology services or devices must comply with the U.S. Department of Education's notice of interpretation on the Use of Insurance Proceeds (December 30, 1980) and may not pose a realistic threat of financial loss to parents of children with disabilities. (OSERS 1992)

HOW CAN SCHOOL DISTRICTS IMPLEMENT ASSISTIVE TECHNOLOGY REGULATIONS?

- Designate a staff member to coordinate technology activities.

- Complete an inventory of all assistive technology devices and services currently used within your county. Survey special education and related service providers for this information.

- Complete an inventory of all student assistive technology needs within your county. Survey special education teachers and related service providers for known student needs.

- Do a needs assessment of your staff to identify training needs and possible resources among your staff.

- Identify assistive technology resources available within your county and community. Identify staff, agencies, and vendors in your county and community who have expertise to share.

- Determine how your county will document that assistive technology was considered within the evaluation and IEP process. Make sure all personnel are aware of the correct procedures.

- Ensure that staff is aware of the variety of assistive technology devices/services that can be used to implement objectives. Frequently, requests for devices/services may not be the most appropriate, but one that was suggested from a subjective source.

- Develop strategies to include assistive technology in the evaluation process especially in the areas of vision, hearing, health/motor, and communication. Identify the evaluating personnel and the areas of assistive technology in which they are knowledgeable. Identify resources in those areas that you do not have personnel with expertise -- either by purchasing an evaluation from outside the county or by training county staff. If using outside evaluation sources, make sure the evaluators are qualified.

- The IEP Committee must consider the need for assistive technology during the development of the IEP. the team must determine if assistive technology is required to implement the goals and objectives in order for the student to benefit from the instruction provided. Therefore, team members should be knowledgeable regarding the need for assistive technology to implement IEP objectives.

- Become familiar with alternative funding sources for assistive technology devices and services. (Examples: Medicaid, medical insurance, service organizations, etc.)

HOW TO MAKE ASSISTIVE TECHNOLOGY "USER - FRIENDLY" IN THE SCHOOLS?

Although specific assistive technology devices and services for students with disabilities are determined by the IEP committee and delineated on the student's IEP, the following issues should be considered by schools when developing a technology program for all students:

- Consult with individuals who have expertise in assistive technology when developing plans for school or county technology programs.

- Ensure that computers are adaptable and all student have access to equipment.

- Include special educators in technology training opportunities.

- Increase awareness of assistive technology for all educators by including general information in training initiatives.

- Consider needs of students with disabilities when furniture and other equipment are purchased.

- Implement curricular modifications for students with disabilities when appropriate.

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Enders, A. (1990). *Assistive technology sourcebook.* Washington, D.C.: Resna Press.

DEFINITION OF TERMS

Adaptive Devices: Adapting or changing devices to provide modification of the environment. Examples of adaptive devices include a switch to control television from a wheelchair or a ramp used in place of steps for a wheelchair.

Assessment: A complete analysis of an individual's situation with regard to the need and potential benefits of appropriate types of assistive technology or technology-related services that could enhance his/her life.

Assistive Technology (AT): A generic term including assistive, adaptive and rehabilitative devices and the process used in selecting, locating and using them.

Assistive Technology Device: Any item, piece of equipment, or product system used to increase, maintain, or improve the functional, capabilities of persons with disabilities. (Examples: hearing aids, wheelchairs, ramps, alienate computer keyboards, and automobile modification devices)

Assistive Technology Service: Any service that directly assists an individual with a disability in the selection, maintenance or use of an AT device.

Augmentative Communication System: Any system that aids individuals who are not independent verbal communicators. The system can include speech, gestures, sign language, symbols, synthesized speech, dedicated communication aids or microcomputers.

Consumer: Individual, or someone responding for an individual, who is, or could be, a user of AT information and program referral services.

Direct Selection: Activation of a letter, picture or other item by a single action. Pressing a key on a keyboard, eye gaze selection or use of an optical headpointer are examples of direct selection.

Environmental Control Unit: A system that enables individuals to control various devices in their environment with single or multiple switches. The control unit may be mounted on a wheelchair for ease of access. Target devices include lights, door openers, televisions and telephones.

Equipment: A general term to include the entire field of products, aids, devices, or other apparatus/hardware that is commercially available, or that can be custom fabricated to assist individuals with disabilities in functioning independently.

Evaluation: A hands-on, in-person, process whereby an individual with a disability is tested, measured, observed and questioned for the purpose of determining the appropriate and beneficial technology for his/her individual situation. Generally, evaluations are performed by specialists such as speech/language pathologists, occupational or physical therapists, vendors, rehabilitation engineers, or others with the adequate knowledge, skills and abilities to provide these services.

Expanded Keyboard: A keyboard which has keys/or spaces between the keys larger than the microcomputer keyboard.

Fabrication: The actual hands-on design, construction, assembly or other process involved in creating a customized product or device that will solve a specific problem faced by an individual with an impairment.

Fitting: The process of installing, adjusting, and testing a product, device, piece of equipment, or other custom fabrication as it applies to benefiting an individual in some way.

Headwand or Headstick: A pointer or extension device that is mounted to a headpiece and extends from the center of the forehead and angles downward. It is usually used in direct selection of an object such as a key on a keyboard or a symbol or word on a board. It is for use by persons with good head control and limited upper and lower body movement. If the pointer extends from the chin it is referred to as a chinwand or chinstick.

High-Tech Devices: High-tech devices incorporate sophisticated electronics or computers. (Examples: Computer, hearing aid, computer produced speech)

Information and Referral Processes: The process through which information is provided to individuals by identifying organizations that can provide the appropriate service(s).

Information and Referral Source(s): A source that helps individuals find the services that best alleviate or eliminate their need for information. An I & R service can be a public, private profit, or non-profit organization.

Information Database: A collection of data stored in an organized, structure which can easily be used for retrieval and sharing.

Input Device: A method of activating or sending information to a computer or other electronic device. Keyboard, mice and trackballs are common computer input devices.

Joystick: A manual device with a moveable control lever that can be tilted in various directions to control computer, wheelchair or other target systems.

Low-Tech Devices: Low-tech items are less sophisticated devices which do not contain mechanical parts (adapted chairs, adapted spoon handles, non-tipping drinking cups).

Maintenance/Repair: A service that must be performed routinely or as needed to keep products, devices, or other equipment functioning at the maximum level. Maintenance and repair can be performed by anyone who is skilled to do so, but is routinely performed by durable medical equipment vendors and other specially-trained service technicians.

Medium-Tech Devices: Medium-tech devices are relatively complicated mechanical devices. (Example - wheelchairs, switch-activated page turners)

Ordering: Activities to acquire specific products, devices, materials, or other equipment to be used in the application of assistive technology services. Ordering usually involves securing adequate payment for needed assistive technology.

Provider: Any agency, organization, program or individual included for referral purposes listed in a retrievable information database.

Scanning: A selection technique which presents groups of items to the user. The user then signals with a switch press, gesture or other means when the desired item is being indicated. The scanners may be performed automatically by an electronic system or manually by the communication partner.

Speech Digitizer: A device which allows digitally recorded speech to be analyzed and converted into electronic patterns that can be stored on a computer. Digitized speech may vary in quality from poor to human sounding, depending on the sampling frequency and audio playback system.

Speech Synthesizer: An electronic device that converts text characters into artificial speech. Speech synthesizers most frequently use pronunciation rules for transplanting text to speech. The quality of synthetic speech ranges from close to lifelike to robotic sounding speech found in lower end speech synthesizers.

TDD: A Telecommunication Device for the Deaf (TDD) allows a person to transmit typed messages over the phone lines to another person with a TDD. Most TDD's include a keyboard for typing messages to send and a display and/or printer to receive messages.

Technology Transfer: The process through which the results from basic and applied research are put into use. Technology transfer has both a hardware and software component. The software component provides an information base for communicating.

Touch Screen: An input device which allows access to a computer by directly touching the screen.

Voice Recognition System: An access system designed to replace the standard keyboard as the method of input. The system is "trained" to recognize utterances that are spoken into a microphone. The utterances are translated into computer commands or sequences of alphanumeric characters and used to operate the computer and software.

RESOURCES

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Eds: Church, G., & Glennon, S.
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In: Topics in Language Disorders,
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MINI-GRANTS AND VOLUNTEERS (1991)
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